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Can You Hear Me Up There? Giving Voice to Local Communities Imperative for Achieving Sustainability

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ARTICLE

CAN YOU HEAR ME UP THERE?

GIVING VOICE TO LOCAL COMMUNITIES IMPERATIVE FOR ACHIEVING SUSTAINABILITY

*Patricia E. Salkin**

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I. INTRODUCTION

Sustainable development is an international challenge that demands attention at all levels of government. The calls to action to achieve sustainability have varied over the last few decades. For example, in the 1970s and 1980s attention was focused on the need for environmental review and growth management strategies.¹ In the 1990s the rhetoric shifted to smart growth and livable communities,² and today, the issue has been reframed as advocates view sustainability through the lens of global warming and climate change.³ Regardless of the nomenclature, however, the end game is the same.

The U.N. Intergovernmental Panel on Climate Change concluded in its 2007 Assessment Report on climate change that “[w]arming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.”⁴ Consensus has been reached that greenhouse gas (“GHG”) emissions must be decreased without delay in order to have any chance of forestalling global warming. To date, 184 countries have signed onto the Kyoto Protocol and committed to reducing their emissions.⁵ Although the United States has neither ratified the agreement nor worked proactively with the international community to craft solutions to global climate change,⁶ state and local governments across the country have stepped up to take the lead in developing emissions reductions strategies. Many states have taken some step toward

1. See, e.g., FLA. DEPT OF CMTY. AFFAIRS, GROWTH MGMT. AND CMTY. PLANNING, <http://www.dca.state.fl.us/fdcp/DCP/compplanning/index.cfm> (last visited Oct. 1, 2009) (“Adopted by the 1985 Legislature...Florida's Growth Management Act requires all of Florida's 67 counties and 410 municipalities to adopt Local Government Comprehensive Plans that guide future growth and development.”).

2. See, e.g., MD. DEPT OF PLANNING, SMART GROWTH BACKGROUND, <http://www.mdp.state.md.us/ourwork/smarthgrowth.shtml> (last visited Oct. 31, 2009) (“The 1997 General Assembly passed five pieces of legislation and budget initiatives—Priority Funding Areas, Brownfields, Live Near Your Work, Job Creation Tax Credits, and Rural Legacy—known collectively as ‘Smart Growth.’”).

3. See, e.g., U.N. Intergovernmental Panel On Climate Change, Climate Change 2007: Synthesis Report 48 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (“At present...few plans for promoting sustainability have explicitly included either adapting to climate change impacts, or promoting adaptive capacity.”).

4. *Id.* at 30.

5. Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/2830.php (last visited Oct. 31, 2009).

6. See, e.g., Editorial, *Disappointments on Climate*, N.Y. TIMES, Dec. 17, 2007, at A30; Press Release, Committee on Oversight and Government Reform, Committee Report: White House Engaged in Systematic Effort to Manipulate Climate Change (Dec. 12, 2007), available at <http://oversight.house.gov/story.asp?id=1653>.

curbing emissions, such as through climate change action plans or emissions reductions targets.⁷

While the United States as a whole speaks through the federal government, the voices and actions of local governments are critical to achieving truly sustainable communities, especially in the climate change arena. Although a coordinated national policy on climate change should be developed, initiatives at the state and local government level, even standing alone, have the potential to dramatically contribute to the international effort to slow the pace of global warming.⁸ A decade ago, governors were emphasizing smart growth in their annual state of the state messages, and in 2007 their emphases shifted to issues surrounding climate change.⁹ Through the local land use regulatory regime, state and local governments can empower communities to implement regulatory strategies and programs that will reduce the carbon footprint and both capture and utilize renewable energy to meet measurable goals in the quest for sustainability. Communities can send a message of “IMBY” (In My Back Yard) by, among other things, welcoming renewable energy and green development, accommodating housing choices for all, and designing neighborhoods and communities that provide for an appropriate balance between the man-made and natural environments while promoting and protecting public health, safety, and welfare concerns.

For the United States of America to emerge as a leader among nations on sustainability, the federal government and the states must listen to the groundswell of whispers at the local

7. See, e.g., About U.S. States & Regions, <http://www.pewclimate.org/states-regions/about> (last visited Aug. 29, 2009); State Climate Actions, <http://www.epa.gov/climatechange/wycd/stateandlocalgov/state.html> (last visited Oct. 31, 2009).

8. See generally, THE UNITED NATIONS PROGRAMME OF ACTION FROM RIO, AGENDA 21, ch. 28 (1992), available at <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter28.htm> (“Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development.”); Timothy Beatley, *Green Urbanism: Learning from European Cities* (Island Press 2000); Edna Sussman, *Reshaping Municipal and County Laws to Foster Green Building, Energy Efficiency, and Renewable Energy*, 16 N.Y.U. ENVTL. L.J. 1 (2008) (arguing that municipal actions to curb emissions are essential to the task of slowing climate change).

9. See NATIONAL GOVERNORS ASSOCIATION CENTER FOR BEST PRACTICES, THE GOVERNORS SPEAK—2007: A REPORT ON THE STATE OF THE STATE ADDRESSES OF THE NATION’S AND U.S. TERRITORIES’ GOVERNORS (Apr. 2007), available at <http://www.nga.org/Files/pdf/GOVSPEAK0704.pdf>.

level. The chorus of these whispers has quickly grown louder, showing that changed behaviors and creative solutions, when viewed collectively, can set a course for a new paradigm in local environmentalism. Federal and state climate change action plans cannot achieve the hoped for results without a partnership with local governments. The federal and state governments must incentivize local action by ensuring that federal and state statutes and regulations do not unintentionally preempt locally designed approaches and must be mindful of the importance of local buy-in when developing state-level plans for sustainability.

II. STATE CLIMATE CHANGE/ACTION PLANS

Governors in many states have issued executive orders establishing commissions and task forces to study and make recommendations on strategies to reduce GHG emissions.¹⁰ Many of these states have already issued interim and/or final reports, and more than half of the states have recently issued climate action plans.¹¹ These plans can be analogized to

10. Ala. Admin. Order No. 238 (Sept. 14, 2007), *available at* <http://gov.state.ak.us/admin-orders/238.html>; Ariz. Exec. Order No. 2006-13 (Sept. 7, 2006), *available at* <http://www.azsos.gov/aar/2006/37/governor.pdf>; Cal. Exec. Order No. S-3-05 (June 1, 2005), *available at* <http://gov.ca.gov/index.php?executive-order/1861/>; Colo. Exec. Order No. B-007-08 (Apr. 22, 2008), *available generally at* <http://www.colorado.gov>; Fla. Exec. Order No. 07-128 (July 13, 2007), *available at* <http://www.flgov.com/pdfs/orders/07-128-actionteam.pdf>; Idaho Exec. Order No. 2007-05 (May 16, 2007), *available at* http://gov.idaho.gov/mediacenter/execorders/eo07/eo_2007_05.html; Ill. Exec. Order No. 2006-11 (Oct. 5, 2006), *available at* <http://www.illinois.gov/Gov/pdffdocs/execorder2006-11.pdf>; Kan. Exec. Order No. 08-03 (Mar. 21, 2008), *available at* http://www.governor.ks.gov/executive/orders/exec_order0803.htm; Mass. Exec. Order No. 438 (2002), *available at* <http://www.lawlib.state.ma.us/source/mass/eo/eotext/EO438.txt>; Md. Exec. Order No. 01.01.2007.07 (Nov. 1, 2007), *available at* <http://www.gov.state.md.us/executiveorders/01.07.07ClimateChange.pdf>; Mich. Exec. Order No. 2007-42 (Nov. 14, 2007), *available at* <http://www.michigan.gov/gov/0,1607,7-168-21975-180299--,00.html>; N.H. Exec. Order No. 2007-2 (Oct. 19, 2007) *available at* <http://www.sos.nh.gov/EXECUTIVE%20ORDERS/Lynch2007-2.pdf>; N.J. Exec. Order No. 54 (Feb. 13, 2007), *available at* <http://www.state.nj.us/infobank/circular/eojsc54.htm>; N.M. Exec. Order No. 05-033 (June 9, 2005), *available at* http://www.governor.state.nm.us/orders/2005/EO_2005_033.pdf; S.C. Exec. Order No. 2007-04 (Feb. 16, 2007), *available at* <http://www.scstatehouse.gov/reports/executiveorders/exor0704.htm>; Va. Exec. Order No. 59 (Dec. 21, 2007), *available at* http://www.governor.virginia.gov/Initiatives/ExecutiveOrders/2007/EO_59.cfm; Vt. Exec. Order No. 07-05 (Dec. 5, 2005), *available at* <http://governor.vermont.gov/tools/index.php?topic=ExecutiveOrders&id=1623&v=Article>; Wash. Exec. Order No. 07-02 (Feb. 7, 2007), *available at* http://www.governor.wa.gov/execorders/eo_07-02.pdf; Wis. Exec. Order No. 191 (Apr. 5, 2007), *available at* <http://dnr.wi.gov/environmentprotect/gtfgw/order191.html>.

11. See PEW CENTER ON GLOBAL CLIMATE CHANGE, PEW CENTER CLIMATE ACTION PLANS (July 20, 2009), *available at* http://www.pewclimate.org/what_s_being_done/in_the_states/action_plan_map.cfm.

comprehensive land use plans because they contain inventories or assessments of the states' current impacts on global warming and climate change and because of their inclusion of aspirational statements of goals for the reduction of CO₂ emissions and other GHGs.¹² The plans typically set forth a series of recommendations for actions that can be implemented to meet state goals. Generally, the recommendations fall into the following categories:

- Energy Efficiency in Buildings (green building standards, appliance efficiency standards, loans/grants/incentives for energy retrofits, modified electricity pricing);
- Waste Reduction and Recycling (volume based fees for waste, increased curbside recycling, expanded bottle bills, landfill methane recapture, waste to energy facilities, waste water treatment plant methane recapture, composting);
- Water Efficiency (low-flow fixtures, irrigation efficiency, gray water reuse, volume based fees for water);
- Energy Efficiency in Transportation (conversion of public fleets to hybrid, incentives for alternative fuels, pay as you drive insurance, increased mileage standards, mass transit);
- Carbon Sequestration (reforestation programs, agricultural soil carbon management);
- Public Education and Outreach;
- Renewable Energy (increasing renewable portfolio standards, allowing net metering incentives);
- Regional Cooperation (Cap and Trade programs, seeking national legislation);
- Energy Efficient Land Use (smart growth, infill, increased density, transit and pedestrian oriented

12. See, e.g., Cal. Exec. Order No. S-3-05, *supra* note 10; Fla. Exec. Order No. 07-128, *supra* note 10, at 1-3; Mass. Exec. Order No. 438, *supra* note 10.

design, urban tree planting, encouraged telecommuting, bicycling);

- Agriculture (manure methane recapture, encouraging local consumption of agricultural products, decreased conversion of forests into agricultural land, incentives for farmers to sell carbon offsets, improving fertilizer use efficiency);
- Green Technology Development (partnering with research institutions, supporting green collar job development);
- Reducing Industrial GHG emissions (regulating fugitive emissions, reducing refinery flaring, methane recapture, tax incentives for retrofits); and
- Climate Change Adaptation.

Climate action plans serve a valuable purpose by cataloguing GHG emissions and forming comprehensive, multi-sector strategies to combat climate change. However, the emissions reductions targets that they set and the strategies that they propose are mere hortatory without the full force and effect of law. Like comprehensive land use plans, these state action plans do not carry the force of law or regulation but merely lay the foundation or justification for future implementation through legal and regulatory measures.¹³ Effective implementation requires interagency and intragovernmental coordination at the state level. Further, as discussed below, a strong intergovernmental partnership, particularly with local governments, is absolutely critical to enabling states to achieve goals and to producing a sustainable United States.

A. Local Governments Are Critical to the Effective Implementation of State Climate Action Plans

Significant sections of state action plans are premised upon the leadership of local governments taking certain actions.¹⁴ This

13. See, e.g., MD. COMM'N ON CLIMATE CHANGE, CLIMATE ACTION PLAN 12–13 (2008), available at <http://www.mdclimatechange.us/ewebeditpro/items/O40F14798.pdf>.

14. See, e.g., MASS. OFFICE FOR COMMONWEALTH DEV., MASSACHUSETTS CLIMATE PROTECTION PLAN 9 (2004), available at http://www.masstech.org/IS/public_policy/DG/resources/2004_MA_Climate_Protection_Plan.pdf (“Local cities and towns play a pivotal role in planning for growth.”).

assumes that there is political desire across municipal jurisdictions to act, that municipal officials have access to the professional staff and expertise needed to make measured studies and action recommendations, and that revenue exists to pay for the development and integration of plans as well as the ultimate implementation and enforcement of local laws and programs. While the South Carolina and Massachusetts plans, discussed briefly below, do acknowledge the importance of local governments, the states' approach is to offer ideas and to provide information and technical assistance.¹⁵ The California plan is discussed in part as an example of how states could establish revenue streams to encourage local government implementation.¹⁶

Many climate action plans are replete with suggestions for how state greenhouse reduction plans can encourage local government actions.¹⁷ The South Carolina climate plan, for example, encourages local governments to create their own community sustainability plans.¹⁸ Suggestions to help local government efforts include a model plan to produce consistency and reduce costs to local governments, a state-sponsored workshop to help strengthen local efforts, and technical assistance in the creation of emission inventories and forecasts.¹⁹ The Massachusetts plan similarly suggests the creation of a clearinghouse for best management practices for energy-efficient municipal operations.²⁰ The Commonwealth's plan also proposes guiding municipalities to think and act regionally by establishing tools to allow "regional planning agencies [to] evaluate energy conservation as part of the planning and environmental review process for municipal programs."²¹ The plan further calls for the state to encourage communities to purchase energy from renewable sources,²² join the Cities for Climate Protection

15. See, e.g., GOVERNOR'S COMM'N ON CLIMATE CHANGE, FINAL REPORT: A CLIMATE CHANGE ACTION PLAN 16 (2008), available at http://www.deq.virginia.gov/export/sites/default/info/documents/climate/CCC_Final_Report-Final_12152008.pdf.

16. CAL. AIR RES. BD., CLIMATE CHANGE PROPOSED SCOPING PLAN 70 (2008), available at <http://www.arb.ca.gov/cc/scopingplan/document/psp.pdf>.

17. See, e.g., MD. COMM'N ON CLIMATE CHANGE, *supra* note 13, at v–viii, 31–34; GOVERNOR'S COMM'N ON CLIMATE CHANGE, *supra* note 14, *passim*; GOVERNOR'S ADVISORY GROUP ON GLOBAL WARMING, OR. STRATEGY FOR GREENHOUSE GAS REDUCTIONS vii, 9, 64 (2004), available at <http://www.oregon.gov/ENERGY/GBLWRM/docs/GWReport-Final.pdf>.

18. S.C. CLIMATE, ENERGY, AND COMMERCE COMM., FINAL REPORT 3–7 (2008), available at <http://www.sccclimatechange.us/ewebeditpro/items/O60F19029.pdf> and <http://www.sccclimatechange.us/ewebeditpro/items/O60F19827.pdf>.

19. *Id.*

20. MASS. OFFICE FOR COMMONWEALTH DEV., *supra* note 14, at 20.

21. *Id.*

22. *Id.*

Campaign, establish community tree planting programs,²³ and work with the state to install “low energy traffic signals and more efficient night lighting.”²⁴

California’s climate action plan also offers many recommendations for local government. For example, the plan calls for the state government to develop a Green Building Standards Code (“GBSC”) that can easily be adopted by local jurisdictions.²⁵ The plan also recommends a partnership between the Air Resources Board and local agencies to enforce emissions standards,²⁶ and recommends consolidation of permitting procedures to reduce overlap between federal, state and local regulations.²⁷ Further, the plan recommends that funding or other incentives be established for local governments through the revenue from a carbon cap-and-trade program.²⁸ Specifically, the plan offers that the incentives could be used to support “well-designed land-use planning and infrastructure projects that create shorter commutes and encourage walking, bicycling, and the use of public transit. Funding of other incentives for local governments could also be used to increase recycling, composting, and generating renewable energy from anaerobic digestion.”²⁹ Another option proposed is the creation of a cap-and-trade program for water that would “provide additional incentives for local governments, water suppliers, and third party providers to bundle water and energy efficiency improvements.”³⁰

In other state climate action plans, the importance of the role of municipalities is often unmentioned or glossed over. In Alabama’s plan, for example, no specific policy recommendations address local governments, although several of the strategies are recognized as best implemented at the local level.³¹ The only mention of municipal government in the Kentucky climate action plan is a suggestion that more assistance and services should be

23. *Id.* at 22.

24. MASS. OFFICE FOR COMMONWEALTH DEV., *supra* note 14, at 9.

25. CAL. AIR RES. BD., *supra* note 16, at 57. The green building standards were adopted in July, 2008. CoolCalifornia.org, Build Green, <http://www.coolcalifornia.org/article/build-green-0> (last visited Oct. 6, 2009).

26. *Id.* at 109.

27. *Id.* at 110.

28. *Id.*

29. CAL. AIR RES. BD., *supra* note 16, at 70.

30. *Id.* at 21.

31. WILLIAM J. HERTS & WILLIAM D. GUNTHER, POLICY PLANNING TO REDUCE GREENHOUSE GAS EMISSIONS IN ALABAMA 20 (1997), *available at* http://www.epa.gov/climatechange/wydc/stateandlocalgov/downloads/Alabama_action_plan.pdf.

provided to local governments to support the Energy Efficiency in Government Buildings Program.³²

The lack of recognition of the pivotal role that local governments play in ensuring sustainability through, in part, attention to climate change action goals, is a serious deficiency in state-level public policy. As the following section illustrates, local governments are often at the forefront of implementing climate action plans. This is especially true in states where the political climate makes it difficult for proposing legislation for the legislature to enact.

III. LOCAL GOVERNMENTS ON THE FRONT-LINE—NO TIME TO WAIT

Local governments cannot and have not waited for the federal and state governments when it comes to sustainability.³³ Climate change is no different. By the close of 2008, more than 900 mayors had signed onto the U.S. Conference of Mayors' Climate Protection Agreement.³⁴ The agreement commits these local governments to working toward meeting the Kyoto Protocol targets (reducing GHG emissions to seven percent below 1990 levels by 2012) through actions taken in their own communities.³⁵ Some of the policies suggested by the U.S. Conference of Mayors include the following: making local GHG inventories, adopting anti-sprawl land use regulations, encouraging alternative modes of transportation, promoting renewable energy production, increasing the use of green building techniques for new construction and retrofits, purchasing fuel efficient vehicles for municipal fleets, increasing the efficiency of water pumping systems, promoting the growth of urban forests, and educating the public about global warming and the need to reduce GHG pollution.³⁶ In addition to the cities that have signed onto the U.S. Conference of Mayors Climate Protection Agreement, many U.S. cities have joined the International Council for Local Environmental Initiatives ("ICLEI")-Local Governments for

32. HEW T. SPENCER, CLIMATE CHANGE MITIGATION STRATEGIES FOR KENTUCKY 93 (June 30, 1998), available at http://www.epa.gov/climatechange/wycd/stateandlocalgov/downloads/ky_2_fin.pdf.

33. Patricia Salkin, *Land Use: Blending Smart Growth With Social Equity and Climate Change Mitigation*, in AGENDA FOR A SUSTAINABLE AMERICA 349, 351 (John C. Dernbach ed., 2009).

34. THE U.S. CONFERENCE OF MAYORS, U.S. CONFERENCE OF MAYORS CLIMATE PROT. AGREEMENT, <http://www.usmayors.org/climateprotection/agreement.htm> (last visited Aug. 30, 2009).

35. *Id.*; see THE U.S. CONFERENCE OF MAYORS, THE U.S. MAYORS CLIMATE PROTECTION AGREEMENT (2005), available at <http://www.usmayors.org/climateprotection/documents/mcpAgreement.pdf>.

36. *Id.*

Sustainability), an international association which promotes smart planning, sustainable development and the implementation of initiatives focused on slowing global warming.³⁷ And counties have been invited to join the “Cool Counties” campaign, which asks them to commit to four actions: “(1) reducing our own contributions to climate change through our internal operations; (2) demonstrating regional leadership to achieve climate stabilization and protect our communities; (3) helping our community become climate resilient; [and] (4) urging the federal government to support our efforts.”³⁸ The international group C40 has also formed to connect the world’s largest cities in their efforts to combat climate change.³⁹ American cities that have signed on include Chicago, Houston, Los Angeles, New York, and Philadelphia.⁴⁰ According to the Natural Resources Defense Council, “if all new communities were designed using smart growth strategies, we could slash emissions by about 595 million metric tons after 10 years, or ten percent of total U.S. global warming pollution.”⁴¹

The U.S. Environmental Protection Agency (“EPA”) has identified a number of actions that local governments can take to save energy and reduce GHG emissions; for example, improving energy efficiency in buildings and equipment (e.g., building codes, reflective roofs and requiring energy star), using green power for government facilities, designing more effective public transit systems, creating biker and pedestrian friendly transportation routes, and reducing waste through recycling.⁴² Ten years ago, EPA’s State & Local Climate Change program

37. ICLEI, CLIMATE CHANGE, <http://www.iclei-usa.org/programs/climate> (last visited Aug. 30, 2009); see ICLEI, MEMBER LIST, <http://www.icleiusa.org/about-iclei/members/member-list> (last visited August 30, 2009).

38. KING COUNTY, COOL COUNTIES, <http://www.kingcounty.gov/exec/coolcounties.aspx> (last visited Aug. 30, 2009).

39. C40 CITIES, <http://www.c40cities.org> (last visited August 30, 2009).

40. C40 CITIES, PARTICIPATING CITIES, <http://www.c40cities.org/cities/> (last visited Aug. 31, 2009).

41. NRDC, IF YOU BUILD IT, THEY WILL COME: AMERICANS WANT SMART GROWTH ALTERNATIVES TO CONVENTIONAL TRANSPORTATION 1–2, *available at* <http://www.nrdc.org/buildinggreen/factsheets/smartgrowth.pdf>, (citing MARY JEAN BÜRER, DAVID B. GOLDSTEIN, NATURAL RESOURCES DEFENSE COUNCIL & JOHN HOLTZCLAW, SIERRA CLUB, LOCATION EFFICIENCY AS THE MISSING PIECE OF THE ENERGY PUZZLE: HOW SMART GROWTH CAN UNLOCK TRILLION DOLLAR CONSUMER COST SAVINGS, *available at* http://docs.nrdc.org/air/air_06031001a.pdf (last visited Aug. 31, 2009)).

42. U.S. ENVTL. PROT. AGENCY, LOCAL ACTIONS, <http://epa.gov/climatechange/wycd/stateandlocalgov/local.html> (last visited Sept. 11, 2009); see U.S. ENVTL. PROT. AGENCY, SMART SAVINGS: CLIMATE SOLUTIONS FOR CITIES 1–4 (Jan. 1999), *available at* <http://epa.gov/climatechange/wycd/downloads/smartsavingsclimatesolutionsforcities.pdf>.

published a short technical report identifying twenty specific climate change solutions for local governments.⁴³

A. Powers of Local Governments

Local governments can take important steps in the fight against climate change without seeking state authorization, making them likely to be both first responders to the problem and laboratories of innovation. While the federal and most state governments continue to struggle to reach a consensus as to how to best tackle global warming, municipalities have led the way in developing new ordinances, policies and regulatory techniques to lower emissions and improve sustainability. Many of these are made possible by local governments' police powers and by state home rule laws.

The police power is generally understood as the power of government to enact laws and regulations in order to advance the public health, safety, and general welfare.⁴⁴ As explained in the influential case *Commonwealth v. Alger*:

[R]ights of property, like all other social and conventional rights, are subject to such reasonable limitations in their enjoyment, as shall prevent them from being injurious, and to such reasonable restraints and regulations established by law, as the legislature, under the governing and controlling power vested in them by the constitution, may think necessary and expedient.⁴⁵

Just as the concept of public welfare is difficult to define, so too is the scope and extent of the police power. Discussing the subject in 1954, the Supreme Court firmly concluded that such questions are best answered by the legislature:

We deal, in other words, with what traditionally has been known as the police power. An attempt to define its reach

43. U.S. ENVTL. PROT. AGENCY, SMART SAVINGS: CLIMATE SOLUTIONS FOR CITIES, *supra* note 42, at 1–4 (among the actions identified are making building energy improvement; replacing motors in city operations with more efficient models; buying energy star equipment for municipal offices; changing traffic lights to LED; using renewable energy to improve air quality; purchasing green power; redesigning communities to encourage walking, biking and mass transit; providing incentives for mass transit and carpooling; fostering telecommuting and trip reduction; converting fleets to run on alternative fuels; putting police on bicycles; initiating “pay as you throw” programs for waste disposal; implementing roadside recycling programs; implementing office paper recycling programs; buying products made from recycled materials; establishing composting programs; capturing methane from landfills; integrating smart growth planning; planting trees; and using reflective surfacing and roofing materials.)

44. See generally Markus Dirk Dubber, “The Power to Govern Men and Things”: Patriarchal Origins of the Police Power in American Law, 52 BUFFALO L. REV. 1277 (2004); Glenn H. Reynolds & David B. Kopel, *The Evolving Police Power: Some Observations for a new Century*, 27 HASTINGS CONST. L. Q. 511 (2000).

45. *Commonwealth v. Alger*, 61 Mass. 53 (1 Cush.), 85 (1851).

or trace its outer limits is fruitless, for each case must turn on its own facts. The definition is essentially the product of legislative determinations addressed to the purposes of government, purposes neither abstractly nor historically capable of complete definition. Subject to specific constitutional limitations, when the legislature has spoken, the public interest has been declared in terms well-nigh conclusive.⁴⁶

The police power is vested in the states, but through provisions in state constitutions and statutes,⁴⁷ broad police powers are typically delegated to local governments. Local police power regulations are limited only by the requirements that they be constitutional and reasonable exercises of government power, and that they not be preempted by state or federal legislation.⁴⁸ Municipalities thus share with the states a broad range of authority to enact legislation relating to the public welfare, and some of the subjects most frequently regulated at the local level include building codes, natural resource preservation/extraction, pollution, solid waste, and zoning. With regulatory powers over these activities, local governments can easily enact ordinances and laws in pursuit of climate change mitigation.

In addition to having broad police power authority, many local governments also have significant home rule powers. Home rule laws were enacted in many states in the nineteenth and early twentieth centuries in order to guarantee local governments a certain degree of autonomy in the management of their property, internal affairs, and governance. They often work coextensively with the police power, giving local governments strengthened legislative authority.⁴⁹

Building code reforms have been one of the most important municipal sustainability strategies. Buildings account for about

46. *Berman v. Parker*, 348 U.S. 26, 32 (1954).

47. N.Y. CONST. art. IX, § 2(c)(10); N.Y. GEN. CITY LAW § 19 (McKinney 2003); CAL. CONST. art. XI, § 7; MICH. COMP. LAWS ANN. § 91.1 (West 2006).

48. See 2 SANDRA M. STEVENSON, *ANTIEAU ON LOCAL GOVERNMENT LAW* § 29.01 (2d ed. 1997).

49. See, e.g., *Adler v. Deegan*, 167 N.E. 705, 711–12 (N.Y. 1929) (Cardozo, Ch. J. concurring) (explaining that “[i]f a city lays out a park or builds a recreation pier or provides for public concerts, it is exercising the police power, and is acting for the welfare of its inhabitants, yet acting in a matter that is distinctively its own affair, a matter that is bound up with its own business, its own finances, its own corporate activities. The State may not say . . . , you must lay out a park in such a place or of such a size or at such a time. The State may have its own parks, but that is another matter. Even in situations where the affair to be regulated does not involve a corporate activity of the city, is not a city affair in that sense, but is merely a matter of local interest or concern, the State . . . must keep its hands off unless a State concern is involved or affected, and this in some substantial measure”).

forty percent of GHG emissions in the United States,⁵⁰ making sustainable building an integral part of the country's efforts to reduce the causes of climate change. Green building regulations, which typically cover the construction, operation, and maintenance of structures, have been enacted in dozens of municipalities in nearly all of the states.⁵¹ These codes typically include provisions related to sustainable site design and construction methods, energy and water efficiency, and indoor air quality. General energy efficiency requirements for buildings have also been added to some municipal energy codes,⁵² as have more specific provisions such as "cool roof" regulations that set minimum roof reflectivity standards to control summer building temperatures.⁵³

Zoning and land use regulations are an essential part of any sustainable development strategy. Through zoning and subdivision laws, local governments can enact a host of land use regulations intended to reduce reliance on automobile travel, encourage walking and biking, promote the use of renewable energy, and protect valuable natural resources and open spaces. Some of these zoning laws include: cluster development regulations,⁵⁴ general subdivision regulations,⁵⁵ mixed use development,⁵⁶ solar protection ordinances,⁵⁷ wind ordinances.⁵⁸

50. See, e.g., U.S. ENVTL. PROT. AGENCY, GREEN BUILDING WORKGROUP, BUILDINGS AND THE ENVIRONMENT: A STATISTICAL SUMMARY 5 (2004), available at <http://www.epa.gov/greenbuilding/pubs/gbstats.pdf>.

51. NAT'L SCI. & TECH. COUNCIL COMM. ON TECH., FEDERAL RESEARCH AND DEVELOPMENT AGENDA FOR NET-ZERO ENERGY HIGH-PERFORMANCE GREEN BUILDINGS (2008), <http://ostp.gov/galleries/NSTC%20Reports/FederalRDagendaforNetZeroEnergyHighPerformanceGreenBuildings.pdf>; U.S. GREEN BUILDING COUNCIL, LEED PUBLIC POLICIES (2009), available at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1852>

52. See, e.g., RIVERHEAD, N.Y., MUN. CODE, § 52 (2008), available at <http://www.ecode360.com/?custId=RI0508>; Riverhead, NY, Chapter 52, GREENBURGH, N.Y., MUN. CODE, § 100 (2008), available at <http://www.ecode360.com/?custId=GR0237>; HUNTINGTON, N.Y. MUN. CODE, § 87 (2008), available at <http://www.ecode360.com/?custId=HU0566>; FAIRVIEW, TEX., MUN. CODE ART. 3.10 SEC. 001(a) (2008), available at <http://codes.franklinlegal.net/fairview%2Dflp> ("The minimum standard for energy efficiency of single family residential structures shall be the Environmental Protection Agency's Energy Star designation as it currently exists or may be amended").

53. See, e.g., Dallas, Tex., Green Building Program Ordinance (2008), available at http://www.greendallas.net/pdfs/green_building_ordinance.pdf; Houston, Tex., Commercial Energy Conservation Code (2008), available at <http://documents.publicworks.houstontx.gov/documents/divisions/planning/enforcement/houston-commercial-energy-conservation-code.pdf>; CHICAGO, ILL., MUN. CODE § 18-13-302.1 (2008), available at http://egov.cityofchicago.org/webportal/COCWebPortal/COC_EDITORIAL/JournalversionEnergyordEDITED11508.pdf.

54. Clustering ordinances require buildings within a subdivision to be grouped closely together, leaving larger contiguous areas of open space that conventional subdivisions. See In Small Town and Rural Areas, Try Cluster Housing,

Storm water and landscaping ordinances are another type of police power regulation that can be strengthened to promote sustainability. Low impact development ordinances can mitigate the negative effects of storm water on natural water systems (e.g., runoff and erosion) by restricting the use of impervious surfaces and increasing on site bioretention.⁵⁹ In arid climates, on the other hand, xeriscaping ordinances can help conserve water by requiring climate-tolerant landscaping and water-efficient irrigation systems.⁶⁰ Rainwater collection requirements can also encourage water reuse.⁶¹

<http://www.useful-community-development.org/cluster-housing.html> (last visited Oct. 6, 2009).

55. Through general subdivision laws, local governments can require developments to meet street connectivity, sidewalk, open space, and traffic calming requirements, among other things. With forethought, these regulations can make subdivisions more accessible to pedestrians and bicycles. *See, e.g.*, Kentucky Transportation Cabinet, Street Connectivity Zoning and Subdivision Model Ordinance (2009), available at <http://www.kapa.org/documents/Kentucky%20Connectivity%20Model%20Ordinance%20FINAL.pdf>.

56. Ordinances permitting mixed use development, unlike traditional Euclidean zoning, permit residences to be located near businesses, shops, entertainment areas, and institutional buildings. When people can live close to workplaces and commercial and recreational areas, they can be less dependent on their cars, leading to decreased emissions. Mixed use development ordinances come in many types: planned unit development regulations are flexible and geared toward innovative planning schemes, traditional neighborhood development zones seek to encourage compact downtown designs, and transit oriented development attempts to direct development and increased density to areas located near transit hubs. *See e.g.*, OREGON TRANSPORTATION & GROWTH MANAGEMENT PROGRAM, COMMERCIAL AND MIXED USE DEVELOPMENT CODE HANDBOOK, <http://egov.oregon.gov/LCD/docs/publications/commixedusecode.pdf> (last visited Oct. 31, 2009).

57. Solar access laws can be enacted either at the state or local level, and these types of regulations generally prohibit neighbors from using their property in such a way as to interfere with the use of solar panels. Local governments can also support the use of solar energy systems by exempting them from certain zoning requirements, like height limits and historic district standards. *See e.g.*, Kurt Newick & Andy Black, *California's Solar Access Laws*, SolarDepot.com, <http://www.solardepot.com/pdf/CASolarAccessLaws.pdf> (last visited Oct. 31, 2009).

58. Wind ordinances generally address location, setbacks, noise, decommissioning and site plan review. *See e.g.*, State of Minnesota, Model Wind Ordinance (2005), available at <http://www.ecowerc.com/downloads/MN-model-ordinance-wind.pdf>.

59. *See generally* U.S. ENVTL. PROT. AGENCY, LOW IMPACT DEVELOPMENT (2009), available at <http://www.epa.gov/nps/lid/>.

60. *See generally* U.S. ENVTL. PROT. AGENCY, HOW TO CONSERVE WATER AND USE IT EFFECTIVELY (2009), available at <http://www.epa.gov/owow/NPS/chap3.html>; *See also* TEX. COMM'N ON ENVTL. QUALITY, MULCHING AND COMPOSTING (2008), available at http://www.tceq.state.tx.us/files/gi-036.pdf_4464396.pdf Conni Kunzler, *Laws for the Land*, AMERICAN CITY AND COUNTY, Oct. 1, 2004, available at http://americancityandcounty.com/mag/government_laws_land/.

61. *See* TUCSON, ARIZ., CODE art. VIII, § 6-181 to -188 (2008), available at <http://www.tucsonaz.gov/water/docs/rainwaterord.pdf> (requiring all new commercial developments to include plans for rain water harvesting, and to use harvested rain water for at least fifty percent of their landscaping water needs; and declaring void any future covenant or deed restrictions that would interfere with the installation of rain water harvesting equipment); *see also* SANTA FE, N.M., SANTA FE COUNTY LAND DEVELOPMENT

B. Local Climate Change Plans

Many local governments have followed the lead of the states and have developed local climate action plans.⁶² Illustrative local

CODE art. III, § 2.4.1, § 4.4.1 (2003), available at http://santafecounty.org/waterconservation/documents/Water_Harvesting_Ordinance.pdf. (requiring all new single and double family homes to be built in such a way as to permit installation of gray water reuse equipment).

62. See, e.g., *Local Action Plan for Planet Protection*, City of Alameda, California Planning and Building Department and Climate Protection Task Force (final draft, 2008); CITY OF ALAMEDA CLIMATE PROTECTION TASK FORCE, LOCAL ACTION PLAN FOR CLIMATE PROTECTION (2008), available at http://www.ci.alameda.ca.us/gov/pdf/0802_cplap_draft.pdf; THE TOWN OF AMHERST, MASSACHUSETTS, CLIMATE ACTION PLAN (2005), available at <http://www.amherstma.gov/DocumentView.aspx?DID=612>; CITY OF BERKELEY, CLIMATE ACTION PLAN (2008), available at http://www.berkeleyclimateaction.org/docManager/1000000221/AA.CAP_Complete_doc.pdf; CITY OF BOSTON, CLIMATE ACTION, <http://www.cityofboston.gov/climate/> (last visited Sept. 30, 2009); CITY OF BOULDER, CLIMATE ACTION PLAN (2006), available at http://www.bouldercolorado.gov/files/Environmental%20Affairs/climate%20and%20energy/cap_final_25sept06.pdf; TOWN OF BRATTLEBORO, THE CLIMATE ACTION PLAN (2003), available at <http://www.brattleboro.org/vertical/Sites/%7BF60A5D5E-AC5C-4F97-891A-615C172A5783%7D/uploads/%7B8E554F52-EB49-422F-8E2A-C90242FDF15B%7D.PDF>; CITY OF BURLINGTON, LEGACY PROJECT ACTION PLAN (2000), available at <http://www.cedo.ci.burlington.vt.us/legacy/Burlington%20Legacy%20Plan.pdf>; CITY OF CHARLESTON, LOCAL ACTION PLAN ON CLIMATE CHANGE (2003), available at http://www.cofc.edu/ghgas/Charleston_SC_%20LAP.pdf; CITY OF CHICAGO, CHICAGO CLIMATE ACTION PLAN (2008), available at <http://www.chicagoclimateaction.org/filebin/pdf/finalreport/CCAPREPORTFINAL.pdf>; CITY OF DENVER, CLIMATE ACTION PLAN, available at <http://www.greenprintdenver.org/docs/DenverClimateActionPlan.pdf>; CITY OF EVANSTON, EVANSTON CLIMATE ACTION PLAN (2008), available at <http://www.cityofevanston.org/global/green/documents/ECAP.pdf>; CITY OF HOMER, CLIMATE ACTION PLAN (2007), available at <http://www.ci.homer.ak.us/CLPL.pdf>; CITY OF KEENE, LOCAL ACTION PLAN (2004), available at http://www.ci.keene.nh.us/sites/default/files/2004_CAP_FINAL.pdf; THE CITY OF LOS ANGELES, GREEN LA: AN ACTION PLAN TO LEAD THE NATION IN FIGHTING GLOBAL WARMING (2007), available at http://www.lacity.org/ead/EADWeb-AQD/GreenLA_CAP_2007.pdf; CITY OF MADISON, CLIMATE PROTECTION PLAN (2002), available at <http://www.dsireusa.org/documents/Incentives/WI07R.htm>; CITY OF MIAMI, CLIMATE ACTION PLAN, available at <http://www.miamigov.com/msi/pages/Climate%20Action/MiPlan%20Final%20062608.pdf>; NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION, CLIMATE CHANGE PROGRAM ASSESSMENT AND ACTION PLAN (2008), available at http://www.nyc.gov/html/dep/pdf/climate/climate_complete.pdf; CITY OF PALO ALTO, CLIMATE PROTECTION PLAN (2007), available at <http://www.cityofpaloalto.org/civica/filebank/blobload.asp?BlobID=9986>; CITY OF PHILADELPHIA, LOCAL ACTION PLAN, available at <http://www.phila.gov/green/LocalAction/ExecSummary.html>; CITY OF PORTLAND & MULTNOMAH COUNTY, LOCAL ACTION PLAN ON GLOBAL WARMING (2001), available at <http://www.portlandonline.com/osd/index.cfm?c=41901&a=112115>; CITY OF SAN DIEGO, CLIMATE PROTECTION ACTION PLAN (2005), available at http://www.sandiego.gov/environmental-services/sustainable/pdf/action_plan_07_05.pdf; SAN FRANCISCO DEPARTMENT OF THE ENVIRONMENT AND SAN FRANCISCO PUBLIC UTILITIES COMMISSION, CLIMATE ACTION PLAN FOR SAN FRANCISCO (2004), available at <http://sfenvironment.org/downloads/library/climateactionplan.pdf>; CITY OF SEATTLE, CLIMATE ACTION PLAN (2006), available at http://www.seattle.gov/climate/docs/SeaCAP_plan.pdf; TACOMA CITY COUNCIL, TACOMA'S

climate action plans are briefly discussed below to provide an idea of the breadth and variation in these documents.

1. Denver, Colorado

Denver's 2007 climate action plan⁶³ was prepared by an advisory council through a process that included significant public participation and expert contributions, and includes a set of recommendations for reducing emissions.⁶⁴ After finding that the city's initial goal of reducing emissions by ten percent of 1990 levels "appears to be attainable", the plan recommends a second target of reducing emissions to below 1990 levels.⁶⁵ The plan lists 10 specific goals: (1) encourage residents and businesses to adopt energy saving and sustainable practices; (2) incentivize energy conservation through tiered utility rates; (3) create a voluntary travel offset program; (4) lead by example by developing carbon neutral city buildings and other city programs; (5) enhance recycling programs; (6) adopt mandatory energy efficiency standards for new buildings; (7) increase energy efficiency in existing homes; (8) require the use of "green" concrete; (9) support compact, pedestrian, and bicycle-friendly transit oriented development; and (10) promote alternative transportation strategies of all types.⁶⁶ The Climate Action Plan also contains information about the city's GHG inventory, which sought to determine the amount of emissions produced by various sectors of the city. It also lists a number of specific policy recommendations for emissions reductions strategies at the regional, state and federal levels.⁶⁷

Denver's climate action plan also stands out for its accessibility. It is part of a broader public outreach campaign with an excellent website that contains background information on climate change and suggests ways in which community members can get involved.⁶⁸ This type of public outreach

CLIMATE ACTION PLAN (2008), *available at* <http://www.cityoftacoma.org/File.ashx?cid=9714>.

63. CITY OF DENVER, GREENPRINT DENVER PLAN (2006), *available at* http://www.greenprintdenver.org/docs/greenprint_report.pdf.

64. CITY OF DENVER, CLIMATE ACTION PLAN i, 5-6 (2007), *available at* <http://www.greenprintdenver.org/docs/DenverClimateActionPlan.pdf>.

65. Achievement of the 2012 goal will eliminate the need for the city to construct a new power plant, and achievement of the 2020 goal will allow the city to begin decommissioning an existing coal-fired power plant. CITY OF DENVER, *supra* note 64.

66. *Id.* at 5-6.

67. *Id.* at 7.

68. Greenprint Denver, <http://www.greenprintdenver.org> (last visited Sept. 15, 2009).

component to municipal sustainability campaigns, while not universal, is common.⁶⁹

2. Los Angeles, California

With its tangle of freeways, endless congestion, and sprawling, distantly sited exurbs, Los Angeles is not usually thought of as a leader in the field of local sustainability. But without action to mitigate the effects of climate change, Los Angeles is likely to face serious problems in the coming years: the city is projected to have seventy-five to eighty-five percent more poor air quality days, along with more heat-related deaths and pollution-induced diseases,⁷⁰ droughts are expected to increase in frequency and duration,⁷¹ and sea level rise could severely impact low lying coastal areas, including the Port of Los Angeles, which handles forty-three percent of all U.S. imports.⁷² In recognition of these looming climate problems, Los Angeles chose to prepare for action. Its 2007 climate action plan, "Green LA," suggests that "the threat of climate change is really an opportunity to transform Los Angeles into the greenest big city in America—a model of sustainability for the 21st century."⁷³

The City of Angels will need to take bold actions if it hopes to improve its status as a green city. As it is, the city now emits two tenths of one percent of worldwide GHG emissions—as much as the entire country of Sweden.⁷⁴ The city's GHG inventory also showed that more than half of its emissions were attributable to cars and trucks, and a third could be traced to municipal operations, including the city-managed power utility.⁷⁵

Los Angeles has already begun to take steps to reduce emissions and improve its sustainability. Its recycling program has achieved sixty-two percent solid waste diversion, the municipal department of power and water obtains twenty percent of its energy from renewable sources, water conservation programs have kept consumption rates steady since 1990 despite a fifteen percent population increase, and the city has committed

69. For other examples, see Seattle Climate Action Now, <http://seattlecan.org/> (last visited Sept. 15, 2009); Chicago Climate Action Plan, <http://www.chicagoclimateaction.org/> (last visited Sept. 15, 2009); Ca.gov Climate Change Portal, <http://www.climatechange.ca.gov/> (last visited Sep. 15, 2009).

70. ANTONIO R. VILLARAIGOSA, THE CITY OF LOS ANGELES, GREEN LA: AN ACTION PLAN TO LEAD THE NATION IN FIGHTING GLOBAL WARMING 3 (2007), available at http://www.lacity.org/ead/EADWeb-AQD/GreenLA_CAP_2007.pdf.

71. *Id.*

72. *Id.* at 3.

73. *Id.*

74. Villaraigosa, *supra* note 70.

75. *Id.* at 3–4.

to green building standards.⁷⁶ The city's climate action plan, however, calls for emissions to be reduced to thirty-five percent below 1990 levels by 2030,⁷⁷ and to achieve this goal, additional actions are needed. As the plan explains:

The city must leverage change in the public and private sectors through land use regulation, building guidelines, and investments in transit. It also has the power to provide leadership, stimulate market demand, model innovative and profitable green businesses, promote private investment, create a business-friendly regulatory environment for green companies, and invest in workforce development programs that speed growth of the green economy while improving the income of residents in disadvantaged communities. Achieving ambitious CO₂ reductions will require sustained advocacy, leadership, and collaboration with other municipal governments and regional regulatory agencies. It will require statewide leadership and international participation to address the challenges of this global issue.⁷⁸

Some of the actions proposed in Green LA include: increasing the city's renewable energy supply to thirty-five percent of its capacity by 2020, improving the efficiency of existing non-renewable power plants, enacting private sector green building standards, retrofitting all city buildings to improve efficiency, installing fifty cool roofs annually on city buildings and converting public pools to solar heat, distributing nearly three million compact fluorescent light bulbs to city residents, reducing per capita water use by twenty percent, converting most of the city fleet to alternative fuels, making transit more easily accessible by requiring it to be translated into multiple languages, expanding the regional rail system, promoting transit oriented development, encouraging infill, increasing the solid waste diversion rate to seventy percent, improving sustainability at the city's ports and airports, creating thirty-five new parks and revitalizing the Los Angeles River, reducing the urban heat island effect by planting one million trees, leveraging city purchasing and regulations to encourage the development of green research and technology, creating workforce training programs for green collar workers, improving emergency preparedness, developing plans to address drought, wildfires, sea level rise, and climate-related health problems, and

76. *Id.* at 4.

77. *Id.* at 10.

78. Villaraigosa, *supra* note 71, at 10.

amending the zoning and building codes to minimize the effects of climate change.⁷⁹

The 2007 climate action plan also included a number of “next steps” to help schedule implementation actions,⁸⁰ and in order to coordinate and track these actions, the city set up “Climate LA” to complement Green LA.⁸¹

3. Montgomery County, Pennsylvania

The Montgomery County Greenhouse Gas Reduction Task Force was formed in January 2007 to create an emissions reduction plan for the county, which is located adjacent to Philadelphia County.⁸² The county's GHG inventory showed that its emissions levels were lower than the national average, but that they had grown steadily between 1994 and 2004, “largely due to increase in transportation, electrical use, and fuel energy.”⁸³ The climate action plan, adopted in December 2007, recognizes that global warming is likely to decrease the county's agricultural production, harm natural habitats, and create health and safety threats due to changing and extreme weather patterns, and contains the task force's recommendations for strategies to deal with these impacts.⁸⁴ The task force recognized that the need to find solutions to address climate change impacts may create opportunities within the county for start-ups, vocational-technical schools, and farmers producing biofuels.⁸⁵

In formulating its plan, the task force reviewed climate change plans from other state and local governments, and noted that:

[A] mix of long term, medium term, and short term targets are frequently used in climate change planning because the very significant climate change reductions required to stabilize GHG levels in the atmosphere will require both immediate action and far longer term planning than has been used in the past.⁸⁶

79. *Id.* at 5–7.

80. *Id.* at 27–29.

81. *See* City of Los Angeles, EnvironmentLA, http://www.lacity.org/ead/environmentla/ead_GreenLAClimateLA.htm (last visited September 15, 2009).

82. MONTGOMERY COUNTY GREENHOUSE GAS REDUCTION TASK FORCE, GREENPRINT FOR MONTGOMERY COUNTY: CLIMATE CHANGE ACTION PLAN 14 (2007), available at http://www.naco.org/cfiles/ggi/green_counties/documents/Montgomery%20County%20PA%20Climate%20Change%20Action%20Plan.pdf.

83. *Id.* at 12.

84. *Id.* at 7.

85. *Id.* at 10.

86. MONTGOMERY COUNTY GREENHOUSE GAS REDUCTION TASK FORCE, *supra* note 82, at 16.

The set of targets that the task force ultimately chose, based on its assessment of achievable reductions, includes goals that the county will:

In 2012, reduce greenhouse gas levels to more than four percent below 2004 levels . . . [;]

In 2017, reduce greenhouse gas levels to less than fifteen percent below 2004 levels[; and]

In 2025, reduce greenhouse gas levels to less than thirty-two percent below 2004 levels[.]⁸⁷

The plan notes that Montgomery County has already taken first steps in reducing emissions, such as funding public transportation, building trails and bicycle paths, encouraging transit oriented development, funding acquisition programs for open space and agricultural land, purchasing renewable energy (all of the county's energy comes from wind turbines), and engaging in public outreach.⁸⁸

The plan proposes a number of ways that the county can make its own operations more sustainable and “lead by example,” by educating county employees about the importance of using alternative transportation methods for commuting, turning off lights, and increasing recycling.⁸⁹ Not only will these types of efficiency policies set an example for others in the private sector, but they will also lead to decreased taxes through lowered energy costs. The plan also recommends using green procurement policies and converting the county fleet to lower-emissions vehicles.⁹⁰

The task force also noted that the county's 2005 comprehensive plan could be instrumental in lowering emissions:

[T]he overall guiding visions in the [comprehensive] plan include ongoing multi-municipal and regional cooperation and smart growth and preservation. Sustainable compact development in and near existing towns with infrastructure and transportation opportunities is essential in meeting these visions. This land use pattern called for in the plan would reduce reliance on automobile use and would support existing mass transit facilities. Further the plan recognizes the importance of energy use and conservation.⁹¹

87. *Id.* at 16.

88. *Id.* at 19–21.

89. *Id.* at 17–18.

90. MONTGOMERY COUNTY GREENHOUSE GAS REDUCTION TASK FORCE, *supra* note 82, at 18.

91. *Id.* at 20.

Regarding these policies, the task force noted that the county had created a number of model ordinances and technical assistance programs for municipalities to help meet the goals of the comprehensive plan.⁹²

Some of the other recommendations made in the plan include: coordinating with nearby counties and Philadelphia to develop emissions reductions strategies; regularly and continuously reviewing the county's emissions reductions plans and programs, including the use of new strategies when appropriate and monitoring and reporting actual emissions levels; adopting a green building ordinance; providing low-interest loans to people who live near their work sites; using land use planning to reduce driving needs by encouraging mixed-use design, concentrated growth, infill and redevelopment, and transit oriented development, and discouraging leap frog growth and sprawl by planning for services; promoting sustainable agriculture; planting new trees and increasing vegetation coverage by using flexible zoning techniques to maximize forest preservation, and by installing green roofs; encouraging composting; and using waste digestion technologies to reduce emissions at waste water plants.⁹³

4. New York City

Under Mayor Michael Bloomberg, the City of New York adopted PlaNYC for a sustainable City,⁹⁴ explaining that by 2030 the City of New York will house more people, will be dealing with an aging infrastructure, and the environment will be more unpredictable with challenges resulting from, among other things, a rise in the sea level.⁹⁵ The city identified ten key goals,⁹⁶ and to specifically address climate change issues, the

92. *Id.* at 20–21.

93. *Id.* at 18, 20, 22–24, 31.

94. N.Y. City, Climate Change, <http://www.nyc.gov/html/planyc2030/html/plan/climate.shtml> (last visited Oct. 31, 2009).

95. *Id.* In fact, a survey conducted in 2008 by Columbia and Yale Universities revealed that sixty percent of those surveyed believe that NYC will have to be abandoned in 50 years as a result of sea level rise resulting from climate change. CTR. FOR RESEARCH ON ENVTL. DECISIONS ET AL, THE NEW YORK GLOBAL WARMING SURVEY 1 (2008), available at <http://research.yale.edu/environment/climate/pdf/NYC-GlobalWarming.pdf>.

96. These goals include: creating housing for almost a million more New Yorkers while making housing more affordable and sustainable, ensuring that all New Yorkers live within a 10 minute walk of a park, cleaning up contaminated land, opening up ninety percent of the waterways for recreation by reducing pollution and preserving natural areas, developing critical back-up systems for aging water infrastructure, adding transit capacity for a million more New Yorkers, reaching a state of good repair for the public transportation infrastructure, providing cleaner and more reliable power by upgrading the energy infrastructure, achieving the cleanest air of any major city and reducing global warming emissions by thirty percent. See N.Y. City, Climate Change, <http://www.nyc.gov/html/planyc2030/html/plan/climate.shtml> (last visited Aug. 31, 2009).

Mayor established an intergovernmental climate change task force and an inter-agency best management practices task force.⁹⁷ In 2004, the City's Department of Environmental Protection assembled a climate changing task force to work with scientists to improve regional climate change projections, enhance the Department's understanding of the potential impacts of climate change, determine and implement appropriate adaptations to the City's water systems, inventory and manage green house gas emissions, and to improve communication and tracking mechanisms.⁹⁸ The Department identified a number of priorities, including: developing a plan for the continued success of the Department's climate change plan, establishing a climate change office and a senior level steering committee, developing an intranet site to foster interagency sharing of uniform data and information, and developing a reporting mechanism to enable the Department of benchmark success.⁹⁹

5. Cleveland, Ohio

Cleveland's sustainability program, called "Sustainable Cleveland," recommends a number of zoning and planning techniques to advance its goals.¹⁰⁰ Unlike other climate action plans, the Sustainable Cleveland plan does not include a detailed inventory of GHG emissions and projections for reduction potentials, although it does include calculating the city's carbon footprint and attaining the Kyoto Protocol goals among its recommendations.¹⁰¹ The plan is more focused than others, however, on specific strategies to improve sustainability.

The plan first identifies a number of trends that the city needs to address, including: population decline and resulting urban deterioration, environmental degradation, land use patterns, the rise in obesity and other lifestyle-related illnesses, local foods purchasing, transportation, education, the changing economy, workforce mobility, high performance and green building, energy conservation, renewable energy, and recycling and solid waste disposal.¹⁰² Cleveland has also identified its

97. CITY OF N.Y., PLANYC 136 (2007), *available at* http://www.nyc.gov/html/planyc2030/downloads/pdf/full_report.pdf.

98. THE N.Y. CITY DEPT. OF ENVTL. PROTECTION CLIMATE CHANGE PROGRAM, ASSESSMENT AND ACTION PLAN 13 (2008), *available at*, http://www.nyc.gov/html/dep/pdf/climate/climate_complete.pdf.

99. *Id.*

100. CITY OF CLEVELAND, CONNECTING CLEVELAND 2020 CITYWIDE PLAN, SUSTAINABILITY 3 (2009), http://planning.city.cleveland.oh.us/cwp/sus_trend.php (last visited Oct. 31, 2009).

101. *Id.* at 28.

102. *Id.* at 4–9.

assets: ample unused land, city and regional successes to build on, a strong network of local organizations promoting sustainability issues, existing local models for sustainable development, existing mixed-use land use patterns, and natural features like Lake Erie.¹⁰³ The plan also acknowledges that it will face significant challenges in achieving its sustainability goals, including inadequate personnel and financial resources, apathy in the private and public sectors, energy-wasteful construction practices, and existing environmental degradation.¹⁰⁴

Building on these assessments, Cleveland was able to develop a menu of sustainability policies and strategies. These broad policies support sustainable development patterns and practices, sustainable economic patterns, green building, non-motorized and mass transit, energy conservation, renewable energy, brownfields remediation, recycling and waste management, and air quality improvement.¹⁰⁵ Some of the more specific land use and planning techniques recommended by the city to promote the goals of the Sustainable Cleveland plan include: innovative and flexible zoning districts (e.g., open space/recreation districts, midtown mixed use districts, live-work overlay districts, business revitalization districts, urban townhouse districts, planned unit development districts, and pedestrian retail overlay districts), a downtown surface parking lot ban, suitably proportioned urban lot sizes, the incorporation of transit oriented design into the site review process, a draft city bikeway plan, a program to install bike racks and street benches, green building training for building inspectors, development incentives (especially for infill), and a housing trust fund and housing rehabilitation programs.¹⁰⁶ The city has also created the positions of Sustainability Programs Manager and Land Revitalization Manager in order to help implement its sustainability goals.¹⁰⁷ Advisory committees on bicycles, pedestrians, and streetscapes also aid in the development and implementation of the plan.¹⁰⁸

6. Santa Fe, New Mexico

The City of Santa Fe adopted the Sustainable Santa Fe Plan in 2008 following a 2007 resolution that called for the city to develop new environmental policies to address climate change,

103. *Id.* at 9–12.

104. CITY OF CLEVELAND, *supra* note 100, at 12–13.

105. *Id.* at 13–29.

106. *Id.* at 3–4.

107. *Id.* at 4.

108. CITY OF CLEVELAND, *supra* note 101, at 4.

and a 2006 resolution that endorsed the U.S. Conference of Mayors' Climate Protection Agreement.¹⁰⁹ The introduction to the plan explains, “[s]ustainability can be defined as taking care of the needs of the present generation without compromising the ability to meet the needs of future generations. It also can be defined as the intersection between three principals: environmental stewardship, economic health, and social justice.”¹¹⁰ The plan acknowledges all three of these principles by incorporating values beyond just the reduction of GHG emissions.¹¹¹ It looks to the history and culture of Santa Fe and incorporates other values of the community. By doing this, it takes a plan that would normally have a single focus and uses it as a catalyst to promote “community sustainability” by considering other social and economic goals. The plan therefore attempts to distribute the benefits and costs of moving towards sustainability in an equitable way.¹¹²

Like most climate action plans, the Santa Fe plan includes a declaration that the city is seeking to decrease its emissions to seven percent below 1990 levels by 2012, in accordance with the Kyoto Protocol.¹¹³ The city developed an approximate baseline emissions rate for 1990 based on financial data, and in order to reach its reduction goal, the city estimates that it will have to decrease its current emissions by eighteen and nine tenths percent.¹¹⁴

While the plan revolves around the three principles of environmental stewardship, economic health, and social justice, it also addresses more specific goals. Aspects of the plan include: the adoption and enforcement of sustainable land use codes and

109. CITY OF SANTA FE, SUSTAINABLE SANTA FE PLAN: BUILDING A MORE SUSTAINABLE FUTURE BY LOOKING TO THE PAST (2008), available at <http://www.santafenm.gov/DocumentView.asp?DID=702>.

110. *Id.* at 1.

111. *Id.*

112. *Id.*

113. CITY OF SANTA FE, *supra* note 109, at 3–5 (Reducing emissions from city operations is a key part of the Sustainable Santa Fe Plan. The plan explains that Santa Fe already has energy efficiency requirements for municipal construction projects. Moreover, the city has already begun to perform energy audits on municipal buildings, to convert its vehicle fleet to hybrid and low emission automobiles, and to replace traffic and street lights with energy efficient LEDs. The city has also begun an energy audit of its Water Division and it is studying possible ways to reduce emissions from its wastewater facility. In addition to these actions, the Sustainable Santa Fe Plan calls for the city: to educate municipal employees about how they can make daily operations more sustainable, to revise the city's purchasing manual to encourage purchases of more sustainable products (e.g. by supporting purchases of more local and organic food, more recycled materials, more materials with reduced packaging), to continue purchasing hybrid vehicles, and to maximize the city's hydroelectric energy generation capacity).

114. *Id.* at 3.

policies, increasing the use of alternative transportation methods, the prevention of further sprawl and the maintenance of existing neighborhoods as vibrant and lively living areas, increasing economic opportunity, better management of storm water and watershed resources, and improving the city's open spaces and recreational areas.¹¹⁵ Additionally, the Sustainable Santa Fe plan envisions a water acquisition plan that will cover the city through 2040.¹¹⁶ The Sustainable Santa Fe Plan also acknowledges that its development and zoning regulations have a large impact on the city's sustainability due to their influence on driving patterns and environmental impacts.¹¹⁷

Another key part of the Sustainable Santa Fe Plan is the city's new building code for residential construction that it prepared contemporaneously with the sustainability plan.¹¹⁸ The building code addresses site design, resource efficiency, energy and water efficiency, indoor environmental quality, homeowner education and global impacts.¹¹⁹ Additionally, the sustainability plan calls for the creation of new building codes and incentive programs for existing buildings, commercial buildings, and structures located in historic districts.¹²⁰

115. *Id.* at 1.

116. *Id.*

117. CITY OF SANTA FE, *supra* note 110, at 8–9. The plan explains that: “The layout of cities and the distribution of land uses can effect [sic] how much people need to travel. When locations of jobs, schools, shopping, and services are nearby, vehicular travel can either be shortened or replaced with alternatives modes. Also, the layout of streets, parcels, and the placement of structures on their sites effects [sic] the ability to take advantage of energy efficient design and to deliver alternative transportation modes. The City's Development Code . . . dictates how parcels and streets are laid out, how stormwater is handled and the use of landscaping materials. The Development Code includes the Zoning Code which dictates where different land uses are allowed, how structures are placed on their lots, and how tall structures can be built. The Development Code, including the Zoning Code, need to be reviewed for opportunities for GHG emission reductions and to facilitate adaptation to the effects of climate change including transportation, solar gain and shading, food growing, and water harvesting and usage.” *Id.* at 8. In order to reach these goals, the plan recommends amending the development and zoning codes, specifically, to add solar access laws to ensure that people can install photovoltaics, to promote the use of gray water and rain water for landscaping, toilet flushing, and other uses, to encourage the use of natural vegetation shading, to promote passive solar design through building and subdivision regulations, to encourage the production of locally grown food, to incorporate more mixed use development, to increase the amount of affordable and energy efficient housing; and to require large developments and subdivisions to provide pedestrian and bicycle infrastructure. *Id.* at 8–9.

118. *Id.* at 6.

119. *Id.* at 7.

120. *Id.* at 35. However, this aspect of the plan has been the subject of recent litigation. In October 2008, a federal district court judge issued a preliminary injunction barring enforcement of the City of Albuquerque's green building code enacted in 2007 [the Albuquerque Energy Conservation Code and High Performance Building Ordinance] pending the outcome of a lawsuit brought by HVAC and water heating equipment trade organizations, contractors and distributors on the grounds that it was preempted by federal law. Among other things, the Code called for a thirty percent increase in energy

The development of renewable energy resources is another important part of the sustainability plan.¹²¹ For social and environmental justice reasons, the plan rejects nuclear power as a viable option, recommending that the city concentrate on reducing the city's energy demands in order to forestall the construction of new fossil fuel-based power plants.¹²² Santa Fe is not only looking for ways to increase its renewable portfolio; the city is also trying to ensure that its low-income residents can access adequate energy supplies even when prices rise.¹²³ In this regard, the city wants to require the state utility to notify the company before shutting off any resident's power, and it also wants to increase the aid available to low income households for weatherization.¹²⁴

With respect to transportation, the Sustainable Santa Fe Plan seeks to transform the city "from a car culture, to one that moves at many speeds simultaneously: an environment filled with pedestrians, bicyclists, drivers of low speed electric vehicles ("LEVs"), scooters, plug-in hybrid electric vehicles ("PHEVs"), and buses and trains operating on alternative fuels."¹²⁵ The

efficiency for new commercial and residential buildings as well as those undergoing substantial renovations (to achieve this goal, the Code provides that single-family homes should have more insulation, more efficient heating, cooling and ventilating, water heating and lighting; and commercial and residential structures would also undergo thermal bypass inspections). The judge wrote that, "The city's goals [in enacting the disputed code] are laudable. Unfortunately, the drafters of the code were unaware of the long-standing federal statutes governing the energy efficiency of certain HVAC and water heating products and expressly preempting state regulation of these products when the code was drafted and, as a result, the code, as enacted, infringes on an area preempted by federal law." The judge noted, however, that if there are other provisions of the green code that are not affected by the dispute, parties could submit an order for consideration to narrow the scope of the preliminary injunction. *Air Conditioning, Heating & Refrigeration Inst. v. City of Albuquerque*, No. 08-633 MV/RLP, 2008 U.S. Dist. LEXIS 106706 (D.N.M. Oct. 3, 2008).

121. CITY OF SANTA FE, SUSTAINABLE SANTA FE PLAN *supra* note 109, at 10.

122. *Id.* at 10-11 (This will be accomplished through an energy audit and targeted efforts to reduce peak energy demand, as well as educating residents about energy efficiency and encouraging more renewable energy production through incentives for both large and small-scale generators.)

123. *Id.* at 10.

124. *Id.* at 12.

125. *Id.* at 13-15 (The plan notes that to be effective, it has to affect not just how people move, but also how goods are transported. It also recognizes that increasing alternative transportation options has health benefits as well as environmental advantages, due to both decreased pollution and increased physical activity. The plan explains that several public and private sustainable transportation efforts are already underway in the city, and will continue to be supported. These include: a bus system that uses compressed natural gas fuel; a park and ride program that offers low cost shuttle service between Santa Fe, Los Alamos, Espanola and Albuquerque; "Santa Fe Ridefinders," a city website that helps people to arrange carpools; a curbside transportation program for seniors and disabled persons; locally available alternative fuels, such as biodiesel, ethanol, and straight vegetable oil; the Southern New Mexico Railway; a "Complete Streets" program that seeks to ensure that city planning adequately

Sustainable Santa Fe Plan also includes a section devoted to ecological adaptation, recognizing that even with a heightened attention to sustainability the city's climate is likely to see a number of drastic changes as global warming progresses.¹²⁶ In addition to existing programs and requirements for stormwater management, permeable pavement, tree protection, landscaping and habitat restoration, the Sustainable Santa Fe Plan recommends a continuing study of the local effects of climate change including finding ways to maximize the use of rain and storm water for irrigation and groundwater recharging, reducing the heat island effect, protecting soils, and protecting biological diversity.¹²⁷

Water conservation is especially important in Santa Fe, as the Southwestern region of the United States is expected to see decreasing amounts of fresh water as climate change progresses over the following decades.¹²⁸ Santa Fe has already made significant progress in lowering water demands; the average water used per resident dropped from 160 gallons per day to 103 in the past ten years.¹²⁹ But major improvements caused by replacing inefficient appliances and toilets and planting less water-hungry landscaping have mostly plateaued.¹³⁰ As a result, the Sustainable Santa Fe Plan recommends creating a Water Conservation Strategic Plan, expanding incentive programs to address indoor and outdoor water conservation opportunities, adopting new technologies to track water usage and identify opportunities to conserve water, encouraging (and possibly mandating) the use of water efficient appliances, continuing to reduce landscape watering, improving leak monitoring and repairs, increasing public outreach, improving compliance and

provides for bicycles, pedestrians, and cars; and a Bicycle and Trail Advisory Committee that is working on amendments to a 1993 Bicycle Master Plan. Additionally, the plan explains that a number of additional transportation programs are in development, including: a new rail spur that will connect Santa Fe to other commercial centers in the region, plans for multimodal transit hubs, plans to replace the city fleet over time with high efficiency and low emissions vehicles, and a school district program to convert school buses to biofuels. Under the plan, the city proposes to find other ways to increase mass transit use, and it also recommends making safety improvements for pedestrians and bicyclists, providing recharging stations for electric vehicles, offering free or low price bicycle and/or electric vehicle rentals, constructing new bike routes, improving sidewalks, encouraging carpooling, and encouraging the use of alternative, low emission fuels).

126. *Id.* at 17 (These changes, such as the loss of native species, more frequent droughts, floods and fires, increased risks of pests, and reduced spring snow melts, require adaptations in and of themselves).

127. *Id.* at 19.

128. *Id.* at 21.

129. CITY OF SANTA FE, SUSTAINABLE SANTA FE PLAN *supra* note 109, at 21.

130. *Id.*

enforcement efforts, and initiating a recycled water program to increase the use of treated effluent.¹³¹

Solid waste is another important topic in the plan, which explains that:

[S]olid waste results in greenhouse gas (GHG) production in two ways. First, on its way to becoming a waste, there is embodied energy from the materials' manufacture, transportation, use, and disposal. Then, as it decomposes in a landfill it produces the GHG methane . . . In addition to directly creating GHG, not reusing or recycling waste results in the extraction of more natural resources and manufacture and transportation of more new products.¹³²

To address these issues, Santa Fe has already developed a strong recycling program and implemented a "pay-as-you-throw" garbage collection system that assesses fees based on the volume of trash collected.¹³³ The plan makes a number of additional suggestions, such as: adopting a zero waste ordinance, "aggressively" increasing recycling by businesses and other organizations, establishing new city purchasing guidelines that would favor vendors that reduce their waste, helping the construction and demolition sectors to more effectively reduce waste and increase materials reuse, increasing public outreach about the importance of not using disposable plastic bags, selling carbon offsets gained by increased recycling in order to fund further sustainability projects, exploring funding options for landfill gas exfiltration analysis, expanding the recycling program to offer composting services, and providing increased opportunities for residents to dispose of electronics and household hazardous wastes.¹³⁴

The plan also recognizes that the way the city obtains its food is incredibly wasteful, involving long transportation routes and energy-intensive packaging.¹³⁵ The plan explains that the "food system's complete dependency upon fossil fuels raises the issues of food security and social justice[.]" and for these reasons, the city "must begin to make the shift to local food."¹³⁶ To help build a local food network, the city has already extended support for local farmers' markets and started working on community

131. *Id.* at 22.

132. *Id.* at 25.

133. CITY OF SANTA FE, SUSTAINABLE SANTA FE PLAN, *supra* note 109, at 26.

134. *Id.*

135. *Id.* at 28 (The plan notes, for example, that getting beef to the supermarket requires more than 5,000 miles of transportation.)

136. *Id.* at 29.

garden initiatives.¹³⁷ The plan calls for increased efforts, such as: setting a target goal for local food, designing a “City Harvest” program to “create multiple food growing, processing, storing, and selling opportunities,” reducing legal and economic barriers to urban agriculture, increasing the availability of land for agriculture, creating a matching program to help connect people who want to grow food to people who have available land, developing gardening programs for the homeless and at-risk youth, and creating a “foodshed.”¹³⁸

Education and outreach, according to the plan, are “essential to increase the understanding of why change is needed, as well as to create the multiple transitions required to reach meaningful GHG reduction goals. The vision of sustainability must become integral to our community as a whole.”¹³⁹ Some of the plan's broader recommendations include identifying opportunities for training and education within each section of the plan, developing a sustainability curriculum for local primary and secondary schools and establishing incentives for its adoption, developing a resource guide listing informal educational resources and events, and creating both formal and informal educational programs for sustainability.¹⁴⁰

Finally, the Sustainable Santa Fe Plan includes a section on implementation.¹⁴¹ As the plan explains, it includes only objectives, each of which the city must still implement through laws, resolutions, or policies.¹⁴² In order to ensure that the plan's recommendations are current, the plan recommends that, as city resources permit, the city will review performance annually, every five years, and every ten years.¹⁴³ To help with implementation, the city will form workgroups for each of the plan's topic areas and will regularly report to the Sustainable Santa Fe Commission.¹⁴⁴

7. Arlington County, Virginia

The Arlington Initiative to Reduce Emissions [AIRE], seeks to reduce emissions by ten percent from 2000 to 2012.¹⁴⁵ The plan builds on the county's success in reducing emissions by two

137. CITY OF SANTA FE, SUSTAINABLE SANTA FE PLAN, *supra* note 109, at 29.

138. *Id.* at 29–30.

139. *Id.* at 31.

140. *Id.* at 32.

141. CITY OF SANTA FE, SUSTAINABLE SANTA FE PLAN, *supra* note 109, at 33.

142. *Id.*

143. *Id.*

144. *Id.* at 34.

145. Arlington, VA, Arlington Initiative to Reduce Emissions, <http://www.arlingtonva.us/portals/topics/climate.aspx> (last visited Oct. 31, 2009).

and six tenths percent between 2000 and 2005.¹⁴⁶ To meet its goal, the county: (1) offers resources to businesses to help them curb emissions, including free energy audits for small businesses; (2) helps residents to lower household emissions by offering a limited number of free energy audits, free compact florescent light bulbs, and other resources; (3) has implemented programs to reduce its own emissions, such as through: energy saving renovations, the installation of LED traffic signals, tree planting, and the addition of hybrid vehicles to the county's fleet; (4) has increased recycling; and (5) seeks to work cooperatively with other local governments in the region.¹⁴⁷

8. King County, Washington

In 2007, King County adopted a climate change plan in response to several 2006 executive orders that called for the reduction of GHG emissions and planning for the projected impacts of climate change on the county.¹⁴⁸ The plan summarizes the county's opportunities and existing efforts to address climate change and prepare for its effects: it has a role in regional land use and transportation planning, and can thus influence the development of communities that are more walkable and have greater access to transit; it manages several large-scale operations, like a landfill, the region's largest transportation fleet, and several wastewater treatment plants, where significant energy efficiency improvements are possible; it manages public transit and can influence availability and ridership; as a large urban regional government, the county "has an opportunity to advocate for and shape future federal legislation on mandatory nationwide reduction of GHG emissions, both by developing carbon accounting expertise and by joining with other governments to advocate for a carbon market"; it can influence local markets for sustainable products and services due to its buying power; it employs scientists and funds research and development; its role in the completion of disaster mitigation plans can include inquiries into the effects of global warming on sea level rise, other ecological conditions, and flood hazards; through its responsibility for wastewater operations, the county can play a role in protecting the regional water supply and its

146. *Id.*

147. *Id.*

148. KING COUNTY, 2007 CLIMATE PLAN (2007), *available at* <http://www.metrokc.gov/exec/news/2007/pdf/climateplan.pdf> (Exec. Order Nos. PUT 7-5, 7-7, and 7-8, included as Appendix A to the plan) (The plan was also preceded by a 2006 county council motion mandating interagency cooperation in the development of a Global Warming Mitigation and Preparedness Plan and annual reporting).

ecology; and its programs relating to salmon recovery, biodiversity protection, forest stewardship, historic preservation, and agriculture add the region's natural, cultural, and economic resources.¹⁴⁹

The plan includes an inventory of the county's current GHG emissions levels, and sets goals of reducing governmental emissions to six percent below 2000 emissions by 2010, and reducing overall county emissions to eighty percent below current levels by 2050.¹⁵⁰ The plan calls for annual GHG inventorying, reducing the county's use of fossil fuels for transportation, reducing methane emissions from landfills and wastewater treatment plants, improving building efficiency and sustainable building practices, and working with other levels of government and community partners to reduce emissions.¹⁵¹ Regarding broader programs to reduce overall county emissions, the plan includes goals of increasing alternative transportation options, implementing a congestion pricing system for regional roads and a "pay-as-you-drive" auto insurance program, working with local governments to plan for coordinated and transit oriented development, protecting agricultural and forest lands, developing technical resources and model regulations for green building, and increasing public awareness of energy conservation.¹⁵²

IV. LOCAL PARTNERSHIPS KEY TO EFFECTIVE PUBLIC POLICY IMPLEMENTATION

Federal and state governments must incentivize local action. Although the plans highlighted are impressive, the number of local plans in existence represent a mere fraction of the number of local governments. Federal spending programs can and do influence whether growth proceeds sustainably. Where in the past funds have been spent by the billions to influence land use patterns, the federal government can best promote climate change policies at the local level through financial incentives already existing in myriad federal programs including: transportation, housing, and community development.¹⁵³ In addition to direct financial payments and tax exemptions, the federal government has also come to understand that educational resources, training, and technical assistance are key. For example, during the Clinton-Gore Administration, when smart

149. *Id.*, at 3–5, 10–12.

150. *Id.* at 60.

151. *Id.* 59–98.

152. KING COUNTY, *supra* 148, at 59–98.

153. Patricia E. Salkin, *Smart Growth and Sustainable Development: Threads of a National Land Use Policy*, 36 VAL. U. L. REV. 381 *pinate* (2002).

growth was one of the hottest public policy issues, although the federal government did not have a smart growth policy per se, the actions of the Administration demonstrated a strong commitment to encouraging state and local governments to preserve green space, improve transportation planning, promote regionalism and increase public participation in the planning process.¹⁵⁴ The Livability Agenda, as it was called, provided funding, technical assistance, and community programs.¹⁵⁵

State governments have also spurred sustainable planning initiatives through grants and other incentives.¹⁵⁶ States can often offer more targeted programs than the federal government. Numerous states, for example, have established specialized offices or agencies to pursue sustainability goals by coordinating the efforts of transportation, housing, economic development, and environmental agencies.¹⁵⁷ Other states offer technical assistance in the form of model ordinances and information about various land use planning strategies.¹⁵⁸ Climate change should be specifically targeted as part of these programs and opportunities.

A. Opportunities to Integrate Local Actions with Federal Programs

1. Coastal Zone Management Program

The Coastal Zone Management Act ("CZMA") was enacted in 1972, in part, "to encourage and assist states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and aesthetic values as well as the needs for compatible development.

154. *Id.* at 382.

155. *See Id.* at 382; Press Release, Clinton-Gore Livability Agenda: Building Livable Communities for the 21st Century, http://www.smartgrowth.org/LIBRARY/gore_pr11199.html (last visited Oct. 31, 2009).

156. *See* Patricia E. Salkin, *The Smart Growth Agenda: A Snapshot of State Activity at the Turn of the Century*, 21 ST. LOUIS U. PUB. L. REV. 271 (2002); Patricia E. Salkin, *What More Can We Do? Progress Toward Sustainable Land Use in the States*, 16 WIDENER L. J. 787 (2007).

157. *See, e.g.*, N.J. Office of Smart Growth, <http://www.nj.gov/dca/divisions/osg/> (last visited Oct 31, 2009); Colo. Office of Smart Growth, <http://dola.colorado.gov/dlg/osg/index.htm> (last visited Oct 31, 2009).

158. *See, e.g.*, Mass. Smart Growth Toolkit, http://www.mass.gov/envir/smart_growth_toolkit/ (last visited Oct. 31, 2009); Ga. Smart Growth Toolkit, <http://www.dca.state.ga.us/toolkit/toolkit.asp> (last visited Oct. 31, 2009).

...¹⁵⁹ Enacted in 1972, the CZMA gives states the opportunity to work with local governments to achieve a shared land use vision for coastal resources.¹⁶⁰ Involvement in the program is not mandatory, but there are several incentives for the states to participate.¹⁶¹ First, the states can receive increased control over federal actions and permit approvals in their coastal areas by preparing state coastal plans under the Act, because once a state's program has been approved by the Secretary of Commerce, federal activity and permits then must be consistent with the state's coastal policies.¹⁶² In addition to the regulatory powers gained by creating a coastal zone management plan, states also receive federal funding if they participate in the program.¹⁶³

The CZMA, however, also recognizes that for the Act to be successful, it must be implemented not only at the state level, but also by local governments.¹⁶⁴ Accordingly, the approval of state plans is predicated on their inclusion of measures to ensure the continuing participation and cooperation of local governments and other regional agencies.¹⁶⁵ The states are also required to designate a single agency to receive and administer grants for the management program,¹⁶⁶ and the Act permits the states to act through "[their] chosen agency or agencies (including local governments, area wide agencies, regional agencies, or interstate agencies)" in managing the coastal zone program.¹⁶⁷

The National Oceanic and Atmospheric Administration ("NOAA"), which oversees the CZMA, also provides states with funds necessary to enhance their waterfronts,¹⁶⁸ and it allows the

159. Coastal Zone Management Act of 1972, Pub. L. No. 92-583, § 303, 86 Stat. 1280, 1281 (codified as amended at 16 U.S.C. § 1452 (1980)).

160. *Id.*

161. 16 U.S.C. § 1455 (2006). 1980 amendments to the CZMA provided financial incentives for states to redevelop their deteriorated waterfronts. See Robert F. Goodwin, *Redeveloping Deteriorated Urban Waterfronts: The Effectiveness of U.S. Coastal Management Programs*, 27 COASTAL MGMT. 239 (1999); Laurina M. Spolidoro, *Area Contingency Plans: Is the Coastal Zone Management Act on a Collision Course with Unfettered Oil Spill Response?*, 27 WM. & MARY ENVTL. L. & POL'Y REV. 755 (2003).

162. 16 U.S.C. § 1454 (2006). For an in-depth analysis of CZMA's consistency provisions, see Edward M. Cheston, *An Overview and Analysis of the Consistency Requirement under the Coastal Zone Management Act*, 10 U. BALT. J. ENVTL. L. 135 (2003).

163. The contribution must be matched by the state pursuant to the yearly federal-to-state ratio. § 1455(a). For states whose management programs were approved prior to 1990, this ratio is 1:1. § 1455(a)(1).

164. 16 U.S.C. § 1452(4) (2006); 16 U.S.C. § 1455(d)(1), (3), (10) (2006).

165. 16 U.S.C. § 1455(d)(1), (3) (2006).

166. 16 U.S.C. § 1455(d)(6) (2006).

167. 16 U.S.C. § 1455(d)(10) (2006).

168. 16 U.S.C. § 1455a (2006). In FY 2008, NOAA'S Office of Ocean and Coastal Resource Management allocated \$68.3 million for Coastal Management Programs plus an additional \$8 million for Coastal and Estuarine Land Conservation. See, U.S. Dep't of

states to allocate portions of this funding to local governments.¹⁶⁹ Grants are targeted toward particular municipalities pursuant to the following objectives: to preserve or restore specific areas because of their national significance or their conservation, recreational, ecological, or aesthetic values,¹⁷⁰ to redevelop deteriorating or underutilized urban waterfronts or ports,¹⁷¹ to provide public access to beaches and coastal areas,¹⁷² and to streamline aquaculture facility permitting processes.¹⁷³ The EPA and NOAA took additional steps to encourage local government participation in coastal zone management in 2005 when they established the Coastal Community Development Partnership program. The partnership “addresses community needs for training, information, policy advice, best practices, and technical assistance[.]”¹⁷⁴

Coastal areas are particularly impacted by climate change through sea and lake level rises, shoreline erosion, and more frequent and severe storms.¹⁷⁵ According to the Coastal States Organization (“CSO”), state coastal programs have undertaken research efforts in historic coastline mapping, historic erosion rates, inventorying coastal features and conditions, as well as building for sea level rise, storm surges and shoreline change, and the effects of climate change on coastal habitats.¹⁷⁶ However, “[a] common concern of state coastal managers is that their research efforts and those conducted by the federal government be well coordinated and not duplicative.”¹⁷⁷ Coastal managers have also indicated a need for mapping and modeling guidance,

Commerce, NOAA, Coastal Funding,
<http://coastalmanagement.noaa.gov/funding/welcome.html> (last visited Oct. 31, 2009).

169. 16 U.S.C. § 1455a(e). “Area-wide agencies” as designated in Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 (42 U.S.C. § 3334 (2006)).

170. 16 U.S.C. § 1455a(b)(1)(A) (Including restoration or enhancement or shellfish production).

171. These waterfronts or ports must be designated by the state as “areas of particular concern” pursuant to §§ 1455(d)(2)(C), 1455a(b)(2).

172. 16 U.S.C. § 1455a(b)(3).

173. 16 U.S.C. § 1455a(b)(4).

174. U.S. Dep’t of Commerce, NOAA, Partnership,
<http://coastalmanagement.noaa.gov/partnership.html> (last visited Oct. 31, 2009).

175. COASTAL STATES ORG., THE ROLE OF COASTAL ZONE MGMT. PROGRAMS IN ADAPTATION TO CLIMATE CHANGE app. b at 1 (Sept. 2008), *available at* <http://www.coastalstates.org/uploads/PDFs/CSO%202008%20Climate%20Change%20Report.pdf>. (They are also vulnerable to “changes in chemical (ocean acidification) and physical characteristics (thermal stratification) of marine systems, saltwater intrusion into groundwater aquifers, increased harmful algal blooms, spread of invasive species, habitat loss (especially coastal wetlands), species migrations, and changes in population dynamics among marine and coastal species”).

176. *Id.*

177. *Id.* at 3.

federal assistance in the development of local and state level coastal adaptation, guidance on legal and economic issues related to shoreline erosion, and guidance on other issues related to climate change (e.g., “invasive species, ocean acidification, ecosystem migration, freshwater resources, and storm surge models”).¹⁷⁸ Regarding specific federal policy reforms, the CSO has explained that “a clear federal strategy for intergovernmental coordination on coastal adaptation to climate change” is needed:

A key component of this strategy should be a new, stronger focus on interagency cooperation between NOAA, state coastal management programs, [the Federal Emergency Management Agency], and state floodplain managers. Suggestions were also made for the development of regional “clearinghouses” for ongoing information exchange among federal, state, and local programs and research activities. Finally, the federal Coastal Zone Management Act should be recognized by Congress and the Administration as one of the primary statutes that can foster adaptation to climate change at the state and local levels.¹⁷⁹

In 2008, federal legislation was proposed that would amend the CZMA’s Section 309 funding program to authorize funding for the completion of coastal climate change adaption plans.¹⁸⁰ No action was taken on the bill.

2. Stafford Act Program

The Disaster Mitigation Act of 2000 was intended, among other things, to reduce the preventable losses associated with natural disasters by requiring states to prepare hazard mitigation plans and encouraging local governments to produce local plans.¹⁸¹ State and local governments that have an approved mitigation plan are eligible to receive increased financial assistance under the Hazard Mitigation Grant Program,¹⁸² and funding may be increased depending on whether the mitigation plan meets a standard or enhanced set of

178. *Id.* at 4.

179. COASTAL STATES ORG., *supra* note 176.

180. H.R. 5453, 110th Cong. (2008).

181. 42 U.S.C. § 5121(b) (2006). Disaster Mitigation Act of 2000, Pub. L. No. 106–390, 114 Stat. 1552.

182. FEMA, MULTI-HAZARD MITIGATION PLANNING GUIDANCE UNDER THE DISASTER MITIGATION ACT OF 2000 (2008), *available at* <http://www.fema.gov/library/viewRecord.do?id=3115>. The Hazard Mitigation Grant Program (HMGP) makes funds available for the development of “State, tribal and/or local mitigation plans” along with projects that may offer protection to private property such as the development of warning systems or even the acquisition of property. *See*, 44 C.F.R. § 206.434 (2009). The acquisition of property is allowed provided that the government use the land for open space, recreational purposes, or as wetlands.

requirements.¹⁸³ Plans must be approved by the Federal Emergency Management Agency (“FEMA”) prior to the receipt of federal funds for hazard mitigation measures.¹⁸⁴ In February 2002, FEMA published an Interim Final Rule providing information on the policies and procedures to be used in mitigation planning.¹⁸⁵ While mitigation plans are required to account for natural disasters only, FEMA “supports those jurisdictions that choose to consider technological and manmade hazards in their respective mitigation plans.”¹⁸⁶ However, “manmade disasters” do not include climate change; they are limited to “technological hazards and terrorism.”¹⁸⁷ FEMA, in fact, has not addressed sustainability in mitigation planning since 2000,¹⁸⁸ and as late as October 2008, the Government Accounting Office (“GAO”) reported that the agency does not take climate change into account when assessing flood probabilities (although FEMA told the GAO that “it has commissioned a study to assess the long-term exposure to climate change that will investigate changes in sea levels, intensity and frequency of hurricanes, and precipitation patterns”).¹⁸⁹

Despite FEMA’s delay in incorporating climate change into its regulations or planning requirements, it is becoming increasingly clear that the impacts of climate change in many areas of the United States will result in more frequent and more severe catastrophic events, including wild fires, floods,

183. FEMA, *supra* note 183, at ix. The five requirements for the standard state mitigation plans are that the plans must: 1) describe how the State coordinates with local mitigation planning efforts; 2) develop a mitigation strategy based on local and State vulnerability analyses and risk assessments; 3) describe how the State provides funding or technical assistance to local governments; 4) discuss how the State prioritizes jurisdictions that will receive mitigation planning and project grants and other State assistance; and 5) establish a plan maintenance process. Enhanced mitigation plans must also: 1) demonstrate a broad, programmatic mitigation approach; and 2) demonstrate a systematic and effective administration and implementation of existing mitigation programs.

184. 42 U.S.C. § 5165 (2006).

185. 44 C.F.R. § 201.1(a) (2009). *See also*, Hazard Mitigation Planning and Hazard Mitigation Grant Program, 72 Fed. Reg. 61,552 (Oct. 31, 2007); 67 Fed. Reg. 8,844.

186. FEMA, *supra* note 183, at vii.

187. *Id.* at v.

188. *See* FEMA, PUB. NO. 364, PLANNING FOR A SUSTAINABLE FUTURE (2000), available at <http://www.fema.gov/library/file.jsessionid=82EDADA74AB2568A6954EE8BC7D456E8.WorkerLibrary?type=publishedFile&file=fema364.pdf&fileid=2545c8a0-46ef-11db-a421-000bdba87d5b>; FEMA, PUB. NO. 365, REBUILDING FOR A MORE SUSTAINABLE FUTURE (2000), available at <http://www.fema.gov/plan/mitplanning/rebuilding.shtm>. (Neither report addresses climate change specifically).

189. U.S. GEN. ACCOUNTING OFFICE, GAO-09-12, FLOOD INSURANCE: FEMA’S RATE SETTING PROCESS WARRANTS ATTENTION, 26-27 (2008), available at <http://www.gao.gov/new.items/d0912.pdf>.

avalanches, and mudslides.¹⁹⁰ For this reason, adaptation to climate change is starting to be recognized as an important aspect of disaster management. As the 2007 California Multi-Hazard Mitigation Plan explained, “[e]mergency managers, planning agencies, private companies, and communities especially affected by climate change will be challenged to adapt their planning to take into account an increasing array of related natural hazards.”¹⁹¹ Connecticut and Hawaii have also included new sections on climate change adaptation in their Hazard Mitigation Plans, as have numerous local governments.¹⁹²

3. Housing Programs

The U.S. Department of Housing and Urban Development (“HUD”) oversees several funding programs that encourage sustainable development.¹⁹³ The HOPE VI Main Street grant program, for example, provides funding for communities wishing to build affordable housing in older downtown business districts.¹⁹⁴ By directing Main Street grants to infill developments, HUD helps to prevent sprawl and increased driving. HUD also included a number of additional criteria in its 2008 Notice of Funding Availability that seek to encourage sustainability. The agency “encourages the applicant to design programs that incorporate sustainable construction and demolition practices, such as the dismantling or “deconstruction” of housing units, recycling of demolition debris, and reusing of salvage materials in new construction”; and applicants “must use new technologies that will conserve energy and decrease

190. See, e.g., U.S. GEN. ACCOUNTING OFFICE, GAO-07-403, NATURAL HAZARD MITIGATION: VARIOUS MITIGATION EFFORTS EXIST, BUT FED. EFFORTS DO NOT PROVIDE A COMPREHENSIVE STRATEGIC FRAMEWORK, 28 (2007), available at <http://www.gao.gov/new.items/d07403.pdf>.

191. CAL. OFFICE OF EMERGENCY SERVS., MULTI-HAZARD MITIGATION PLAN (2009).

192. CONN. DEP’T OF ENVTL. PROT., NATURAL HAZARDS MITIGATION PLAN (2007), available at http://www.ct.gov/dep/lib/dep/water_inland/hazard_mitigation/plan/hazardmitigationplan.pdf; HAW. MULTI HAZARD MITIGATION PLAN (2007), available at http://www.scd.state.hi.us/HazMitPlan/chapter_1_appA.pdf (new section 3.5 on “climate variability and change”, updated section 5.6 relating to “climate change losses”, new section 6.5 on current capabilities, mitigation strategies updated for climate change in sections 7.1, 7.2). See also STATE OF IDAHO HAZARD MITIGATION PLAN (2007); N.Y. CITY NATURAL HAZARD MITIGATION PLAN 5, 60, 97, 103, 159 (2009), available at http://nyc.gov/html/oem/downloads/pdf/hazard_mitigation/section_4_mitigation_strategy.pdf; THE CITY OF ROSEVILLE, MULTI-HAZARD MITIGATION PLAN PROGRESS REPORT 27 (2008), available at <http://www.roseville.ca.us/civica/filebank/blobdload.asp?BlobID=12079p>; CITY OF ROCHESTER, N.H., ALL HAZARD MITIGATION PLAN 3-2 (2005), available at http://www.rochesternh.net/Public_Documents/RochesterNH_Fire/FEMAMit.pdf.

193 Hope VI Main Street Grants Notice of Funding Availability, 73 Fed. Reg. 124 (June 26, 2008).

194 *Id.*

operating costs, where cost effective[.]”¹⁹⁵ Some of the new energy efficient technologies mentioned by HUD include “(i) Geothermal heating and cooling; (ii) Placement of buildings and size of eaves that take advantage of the directions of the sun throughout the year; (iii) Photovoltaics (technologies that convert light into electrical power); (iv) Extra insulation; (v) Smart windows; (vi) Energy Star appliances; and (vii) Combined heat and power (cogeneration).”¹⁹⁶

Other HUD programs also prioritize funding for projects that incorporate sustainable building and development principles. In 2008, for example, HUD set aside more than \$1 million for community housing development organizations to build energy efficient affordable housing.¹⁹⁷ The Brownfields Economic Development Initiative provides funding for cities to clean up and redevelop environmentally contaminated areas.¹⁹⁸

Additionally, HUD recently signed a formal partnership with the U.S. EPA and the Department of Energy (“DOE”) “to promote Energy Star throughout HUD’s affordable housing programs.”¹⁹⁹ The agreement provides, among other things, that HUD, EPA and DOE will “[d]evelop[] and implement[] strategies that assist public housing authorities and assisted housing owners to purchase Energy Star-labeled products when this results in savings sufficient to repay initial higher costs over the expected life of the products”; that all new housing financed through the HOPE VI program will achieve an Energy Star rating if feasible; and that the agencies will identify and develop programs for states and local governments to support the integration of energy efficiency measures into affordable housing developments.”²⁰⁰

4. Community Development Block Grant Program

The Community Development Block Grant Program, also overseen by HUD, includes similar support for energy efficiency

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ U.S. Dep’t of Hous. & Urban Dev., CHDO Green NOFA Grant, <http://www.hud.gov/offices/cpd/affordablehousing/programs/home/greenhome/chdonofa.cfm> (last visited Sep. 11, 2009).

¹⁹⁸ U.S. Dep’t of Hous. & Urban Dev., Brownfield Economic Development Initiative, <http://www.hud.gov/offices/cpd/economicdevelopment/programs/bedi/index.cfm> (last visited Sep. 11, 2009).

¹⁹⁹ U.S. Dep’t of Hous. & Urban Dev., Daily Message (Sept. 19, 2002), *available at* <http://www.hud.gov/news/focus.cfm?content=2002-09-19.cfm>.

²⁰⁰ Memorandum of Understanding Between the U.S. Env’tl. Prot. Agency and the U.S. Dep’t of Energy and the U.S. Dep’t of Hous. and Urban Dev. (Sept. 17, 2002), *available at* <http://www.hud.gov/news/releasedocs/mou.pdf>.

projects. Indeed, the statute explains that “the Federal assistance provided in this title is for the support of community development activities which are directed toward the following specific objectives . . . the conservation of the Nation's scarce energy resources, improvement of energy efficiency, and the provision of alternative and renewable energy sources of supply.”²⁰¹ Activities eligible for community development block grants include, among other things, the construction or installation of public projects that promote energy efficiency, energy efficient rehabilitation projects, public service programs concerned with energy conservation, energy auditing, and “activities necessary to the development of energy use strategies related to a recipient's development goals.”²⁰²

5. Other Federal Funding Programs

A variety of other federal funding sources exist that could be targeted toward local governments' sustainability projects. The EPA distributes funding for brownfield clean up,²⁰³ environmental justice initiatives,²⁰⁴ and water quality infrastructure projects.²⁰⁵ The DOE oversees a technical assistance program that is “designed to provide state and local officials with quick, short-term access to experts at the U.S. Department of Energy national laboratories for assistance with their renewable energy and energy efficiency policies and programs.”²⁰⁶ The agency also distributes funding for weatherization assistance, which helps low income households reduce their utility costs and results in energy savings through increased efficiency.²⁰⁷ Conservation grant programs are managed by the National Park Service and the United States Department of Agriculture.²⁰⁸ The Department of

201. 42 U.S.C. § 5301 (2009).

202. 42 U.S.C. § 5305 (2009).

203. U.S. Env'tl. Prot. Agency, Grants and Funding, <http://www.epa.gov/brownfields/pilot.htm>. (last visited Sep. 11, 2009).

204. U.S. Env'tl. Prot. Agency, Environmental Justice Grant Program, <http://www.epa.gov/compliance/environmentaljustice/grants/index.html>. (last visited Sept. 11, 2009).

205. U.S. Env'tl. Prot. Agency, Clean Water State Revolving Fund, <http://www.epa.gov/owm/cwfinance/cwsrf/basics.htm>. (last visited Sep. 11, 2009) (“Through the CWSRF program, each state and Puerto Rico maintain revolving loan funds to provide independent and permanent sources of low-cost financing for a wide range of water quality infrastructure projects”).

206. U.S. Dep't of Energy, Technical Assistance Project for State & Local Officials, <http://apps1.eere.energy.gov/wip/tap.cfm> (last visited Sept. 11, 2009).

207. U.S. Dep't of Energy, Weatherization Assistance, <http://apps1.eere.energy.gov/wip/weatherization.cfm>. (last visited Sep. 11, 2009).

208. Nat'l Park Serv., Land & Water Conservation Fund, <http://www.nps.gov/nrcr/programs/lwcf/> (last visited Sep. 11, 2009) (“The LWCF program provides matching grants to States and local governments for the acquisition and

Transportation, while still devoting most of its resources to highways and roads,²⁰⁹ does offer several funding options for state and local government alternative transportation projects.²¹⁰

V. CONCLUSION

Although the impacts of global warming and climate change are national and international problems, the solutions and the effective implementation of strategies to address these challenges cannot be achieved without the significant involvement of state, and more importantly, local governments. Local governments have quickly mobilized to engage in the study and development of action plans, policies, education programs, and regulations that, when fully implemented, will collectively represent a significant, if not the most significant, percentage of GHG reduction realized in this country.²¹¹ The federal and state governments can assist local governments in a variety of ways, from the development of broad based policies that recognize and

development of public outdoor recreation areas and facilities.”); Natural Res. Conservation Serv., Conservation Innovation Grants, <http://www.nrcs.usda.gov/programs/cig/> (last visited Sept. 11, 2009) (“Conservation Innovation Grants (CIG) is a voluntary program intended to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging Federal investment in environmental enhancement and protection, in conjunction with agricultural production. Under CIG, Environmental Quality Incentives Program funds are used to award competitive grants to non-Federal governmental or non-governmental organizations, Tribes, or individuals”); Natural Res. Conservation Serv., Farm and Ranch Lands Protection Program, <http://www.nrcs.usda.gov/programs/frpp/> (last visited Sept. 11, 2009) (“The Farm and Ranch Land Protection Program (FRPP) provides matching funds to help purchase development rights to keep productive farm and ranchland in agricultural uses. Working through existing programs, USDA partners with State, tribal, or local governments and non-governmental organizations to acquire conservation easements or other interests in land from landowners. USDA provides up to 50 percent of the fair market easement value of the conservation easement.”).

209. See Kate Gordon, *Transportation Spending in the U.S.*, APOLLO ALLIANCE, Oct. 13, 2008, available at <http://apolloalliance.org/rebuild-america/data-points-energy-efficiency/data-points-transportation-spending-in-the-us/>.

210. U.S. Dep’t of Transp., Transportation Enhancement Activities, <http://www.fhwa.dot.gov/environment/te/index.htm> (last visited Sept. 11, 2009) (“Transportation Enhancement (TE) activities offer funding opportunities to help expand transportation choices and enhance the transportation experience through 12 eligible TE activities related to surface transportation, including pedestrian and bicycle infrastructure and safety programs, scenic and historic highway programs, landscaping and scenic beautification, historic preservation, and environmental mitigation.”); U.S. Dep’t of Transp., Alternatives Analysis (5339), http://www.fta.dot.gov/funding/grants/grants_financing_7395.html (last visited Sept. 2, 2009) (“The objective of the Alternatives Analysis program (49 U.S.C. 5339) is to assist in financing the evaluation of all reasonable modal and multimodal alternatives and general alignment options for identified transportation needs in a particular, broadly defined travel corridor. . . . Eligible applicants include public agencies, including States; municipalities and other subdivisions of States. . . .”).

211. See, e.g. HAW. MULTI HAZARD MITIGATION PLAN, *supra* note 193, *passim*; THE CITY OF ROSEVILLE, *supra* note 194, *passim*.

include the role of local governments to training programs and technical assistance to enhance existing capacity. Local governments should be encouraged to further their efforts through incentive programs initiated at the federal and state levels, and both the federal and state governments should be serving as national and statewide clearinghouses for information about the thousands of programs being developed and implemented. Through a systematic cataloguing of local programs, information sharing will save valuable time and resources for municipalities nation-wide; and both policymakers and scientists will be better able to develop realistic measurements and benchmarks of success to help evaluate the effectiveness of myriad programs and initiatives.²¹² Models and best practices flowing from this may be emulated not just in the United States, but in the international marketplace of ideas.

212. See, e.g. N.Y. City, Climate Change, *supra* note 97.