

Changes to Local Sustainability Initiatives: An Exploratory Study

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Abstract

Cities are active in designing and implementing sustainability initiatives. Extant research has provided important insight into the determinants of local initiatives, however, much of the empirical work is focused on the type and number of sustainability policies adopted at a single point in time. This has limited our understanding of changes in sustainability efforts. As a result, there is a need to explore, over multiple points in time, local priorities, administrative capacity, policy initiatives and collaboration for implementation. In this study we present the results of a descriptive analysis of changes in sustainability initiatives for US cities using data from the 2010 Integrated City Sustainability Database (ICSD) and a 2015 national survey of local governments. Our results provide new insight into local efforts to promote sustainability.

**Presented at the 2017 Southern Political Science Association annual conference
January 14, New Orleans, Louisiana**

Introduction

Increasingly, sustainability efforts are being designed and implemented at the local level. Through their regulatory powers over land use, their ability to invest in infrastructure, and their decision-making authority over the use of public resources, local governments are uniquely positioned to advance the principles of sustainability (Bai, 2007; Coenen & Menkveld, 2003; Portney, 2013).

The initiatives of local governments have been catalogued, ranked, and indexed by several authors (Feiock, Krause, Hawkins & Curley, 2014; Opp & Saunders, 2013; Portney, 2003), and a base of primarily cross sectional research has emerged in recent years to describe (Jepson, 2004; Lubell, Feiock & Handy, 2009; Opp & Saunders, 2013; Portney, 2003; Zeemering, 2009) and explain (Bae & Feiock, 2013; Hawkins, Krause, Feiock & Curley, 2015; Hawkins & Wang, 2012; Homsy & Warner, 2014; Krause, Feiock & Hawkins, 2016; Opp, Osgood & Rugeley, 2013; Wang, 2012) these efforts. This literature examines initiatives that encourage “green” economic development (Swan, 2015) and energy conservation (Kwon et al. 2009; Wang, Hawkins, Lebrede & Berman, 2012), among other policy and managerial efforts.

While these studies have undoubtedly contributed to the literature, much of this empirical work is focused on sustainability initiatives at a single point in time. Given the degree of newness and cross-cutting nature of sustainability in local government (Krause et al., 2016), exploring local actions at multiple points in time will improve our understanding of the changes in these initiatives. In this study we are specifically interested in changes to the administrative arrangement and organizational structure that support initiatives, the changes in the types of organizations cities collaborate with in the design and implementation of these efforts, and

changes in the support and opposition of key stakeholder groups that can affect the successful pursuit of sustainability goals.

This paper begins to address these questions by coupling the Integrated City Sustainability Database (ICSD) with a recent survey of local governments. The ICSD combines seven independently administered national surveys of city sustainability programs in 2010 into one comprehensive national data set (Feiock et al. 2014). It thus provides a unique baseline of data from which to examine changes in policy tools, administrative structures, implementation mechanisms, and other contextual factors that shape local sustainability.

Local Sustainability Initiatives

Sustainability policies and programs across the United States utilize a wide variety of policy instruments to reach sustainability goals (Jepson, 2004; Opp & Saunders, 2013; Portney, 2003; Saha & Paterson, 2008). For these to be designed and implemented, cities need adequate administrative capacity (Krause et al. 2016; Hawkins et al. 2016). In addition, collaboration with a wide range of stakeholders is essential for coordinating regional activities, as well as for making improvements to existing policy and in developing new programs (Lubell et al. 2002). Community support is also essential (Wang, Liu & Hawkins, 2015). We examine each of these factors in greater detail in the following section.

Administrative Capacity

The capacity to design and implement sustainable practices is fundamental to advancing sustainability (Lake & Hanson, 2000; Laurian & Crawford, 2015). Administrative capacity is often conceptualized as an organization's financial resources, employees, and policy specific expertise (Collins & Gerber, 2006; Hall, 2008; Howlett, 2009; Loh, 2015; Terman & Feiock, 2014; Wiener & Koontz, 2010). Investments in administrative capacity is argued to indicate

cities taking “sustainability seriously” (Portney, 2013), and has been operationalized by the presence of dedicated staff, departments, and budgets for local initiatives (Hawkins et al. 2016; Krause et al. 2016; Swann, 2015; Wang et al. 2016). Recent studies suggest there is considerable variation in the administrative structures of sustainability programs. The results of a national survey of cities by Krause et al. (2016) indicates cities with greater resource capacity, greater overall population, and longer-running sustainability programs were found to be more likely to have specialized sustainability units that were independent of other city departments or were located within the executive as opposed to within line departments (Krause et al., 2016).

Sustainability initiatives will be more successful when a community has greater administrative capacity because technical issues related to sustainability often require the active involvement of professional staff to design and carry out policy (Brody, Carrasco & Highfield, 2006; Brody, Kang & Bernhardt, 2010). Growth management programs that promote sustainability, for example, can cover a wide range of environmental planning issues that must be considered when guiding the type, amount, location and timing of development and which require administrative capacity to effectively implement (Nelson & Duncan, 1995; Press, 2002; Jepson, 2004). The results of Göçmen and LaGro’s (2016) analysis suggest communities with a planning department and professional planning staff are more likely to permit smart growth developments, and Hawkins (2011) found that cities are more likely to adopt a greater number of smart growth policies when there is at least one planner employed by the city. Administrative capacity is also shown to have a positive effect on land conservation policy (Hawkins, 2014b; Brody, Carrasco & Highfield, 2006; Jepson, 2004) and the use of “green” energy tools (Deslatte & Swan, 2015).

Greater administrative capacity also enables cities to carry out “good planning practices”, such as communication and deliberation to resolve conflicts among competing community interests (Hawkins, 2013). Dedicated professional staff can assemble task forces and workshops (Innes, 1996) and lead conflict resolution and regulatory negotiations that may be required to generate community “consensus” (Susskind & Field, 1996). Administrative capacity can improve the success of collaborative planning processes that may involve very different community stakeholders (Brody, Carasco & Highfield, 2006; Brody, Kang & Bernhardt, 2010). Studies also suggest that investments in fiscal, technical and managerial capacity have a positive influence on sustainability initiatives that require collaboration with different organizations within the region (Wang et al. 2012; Wang, Liu & Hawkins, 2015), and can improve the quality of long term land use plans, which often require collaborative governance systems to implement (Conroy & Berke, 2004; Tang & Brody, 2009; Burby & May, 1997; Jun & Conroy, 2014).

Collaboration

Collaboration across government units and sectors has emerged as an important mechanism to promote sustainability and resource conservation (Ansell & Gash, 2008; Koontz et al. 2004; Sabatier et al. 2005; Lubell, 2004; Lubell, Robins & Wang, 2011). Establishing and expanding collaborative efforts with other government entities and private and non-profit organizations is particularly important for addressing environmental issues that span administrative boundaries, have high levels of uncertainty, involve multiple ecological functions, and have not been effectively managed by traditional policy tools (Lubell, 2004, Sabatier, et al. 2005, Weible, Sabatier & Lubell, 2004). Recent studies show many of the leading cities working on sustainability initiatives have established collaborative networks in the development and implementation of strategies (Zeemering, 2012; Hughes, 2015).

Collaboration is especially important for administrators seeking to leverage scarce resources that are needed to accomplish an organization's goals (Alter & Hage, 1993; Pfeffer & Salancik, 1978; Bryson et al. 2006, Gulati, Lavie & Madhavan, 2011; Huxham & Vangen, 2005; Milward & Provan, 2006; Provan & Lemaire, 2012). In addition, collaboration provides a means for joint fact finding and generating common understanding of the issues. By establishing collaborative relationships, stakeholders can more easily share information, generate or analyze information for decision making, develop plans and implement projects to achieve goals (Koontz et al. 2004; Leach, Pelkey & Sabatier, 2002; Lubell, et al. 2002; Sabatier et al. 2005; Margerum, 2011). Over time this provides greater opportunities for policy learning and innovation (Brass et al. 2004; Isett et al. 2011; McGuire, 2006; Milward & Provan, 2006; Provan & Lemaire, 2012).

Community Support

Community support is important for the success of local sustainability initiatives (Portney, 2005; Swan, 2015; Wang et al. 2012). Portney and Berry (2010) suggest sustainable cities are participatory cities, with populations that are more likely to “sign petitions, participate in demonstrations, ... and be active in neighborhood associations.” Engaging citizens in sustainability initiatives leads to greater cooperation and builds “buy in”, can lead to a more common understanding of how to respond to negative externalities that are generated from the city's ecological footprint, and can provide a counterbalance to business interests (Portney & Berry, 2010). Hawkins, Wang and Berman (2014) suggests engaging citizens can raise awareness for energy needs and weigh alternative initiatives that can be relatively complex, lead to compromises and commitments that are necessary for long term financial vitality of the initiatives, and produce more equitable distribution of resources.

Studies suggest communities that actively engage community residents and organized interests are more likely to adopt meaningful policies that are critical to the success of climate change mitigation and energy initiatives and overall sustainability efforts (Pitt, 2010; Agyeman & Evans, 1995; Baber & Bartlett, 2005; Portney, 2005; Selman & Parker, 1997; Brody, 2003a, 2003b, Koontz, 2006; Layzer, 2002; Weber, 2003). Results of a national survey by Hawkins and Wang (2011), for example, indicate many cities are active in information provision activities, have established boards and commissions, and have conducted community visioning workshops to generate greater support for local sustainability initiatives. These community government engagement mechanisms are shown to have a positive association with energy efficiency financing measures (Wang, Lu & Hawkins, 2015) and a positive effect on financial capacity to implement these policies (Hawkins, Wang & Berman, 2013).

Local environmental organizations are especially important in advancing a city's sustainability agenda (Portney & Berry, 2010; Portney & Cutter, 2010). O'Connell (2009) and Hawkins (2014) find cities with more supportive environmental groups are significantly more likely to have adopted policies that encourage environmental protection while accommodating development. Zahran and colleagues (2008) theorize that the involvement of cities in ICLEI, from a metropolitan perspective, is influenced by their "civic capacity", which includes environmental group presence (see also Portney, 2009). Sharp et al. (2013) find, for example, that the percent of environmental nonprofits in cities with a mayor form of government has a positive and significant effect on achieving ICLEI milestones. Lubell et al., (2006, p 303) found that local "interest group indicators" were positively correlated with their "environmental sustainability policy index", and Hawkins (2010), based on a survey of city officials in Massachusetts, finds that greater environmental interest group support of local conservation

efforts has a positive effect on community residents voting in favor of local growth management policies.

In comparison, “oppositional interests” interests can have a negative impact on sustainability initiatives (Ramirez de la Cruz, 2009; Lubell, Feiock & Handy, 2009; Sharp et al 2013). The growth machine literature posits that pro-growth interests in the form of real estate developers and business are generally well organized and raise a strong voice for growth elites, and therefore have the ability to influence policies that provide benefits that closely align with their preferences for development ((Logan & Molotch, 1987; Molotch, 1976; Feiock, 2004; Lubell et al. 2005). Land based development interests can dominate the local agenda and are able to build governing coalitions to overcome opposition to polices that minimize opportunities for future development (Lewis & Neiman, 2002; Moloch, 1976). As a result, cities may be reluctant to enact polices that direct development away from outlying areas, preserve open spaces and remove land from development or that result in more bureaucracy for developers (Downs, 2005).

In the following section we describe the data sources for examining the changes in administrative capacity and organizational structure, the changes in the types of organizations cities collaborate with in policy design and implementation, and changes in community support of sustainability goals.

Data

Our primary data sources are the Energy Efficiency and Conservation Block Grant (EECBG) Grantee Implementation Survey and the Integrated City Sustainability (ICS) Survey. The EECBG survey was conducted during the winter of 2010 and spring 2011 and consisted of an initial web-based survey and three waves of follow-up mailed surveys to municipal governments receiving EECBG awards. The EECBG data provides information on local

governments' energy policies and experiences with the U.S. Department of Energy's EECEBG program. The survey's sample frame was 970 municipal governments receiving EECEBG awards, 747 completed surveys were returned (77% response rate).

The ICS survey was conducted in the winter of 2015 and spring 2016 and consisted of an initial web-based survey, a follow-up mail survey, and a final wave of web-based surveys to municipal governments with populations over 20,000. The ICS survey data provides information on local governments' sustainability policies and organizational structure. The survey's sample frame was 1,282 municipal governments with populations over 20,000, 504 completed surveys were returned (39% response rate).

The EECEBG and ICS datasets were merged to include only those municipal governments that responded to both surveys, resulting in a sample size of 313 matched municipal governments. Because of question non-responses, the number of matched cities range from 218 to 265, depending on the individual variable that are examined. The ICSD survey contains several questions that fundamentally match the earlier EECEBG survey, allowing us to query how municipal government activities related to sustainability have changed over time. The Appendix provides a comparison of the survey questions.

Table 1 provides the regional distribution, form of government, and racial characteristics of the cities responding to both EECEBG and ICS surveys. Nearly two thirds of the municipalities responding to both surveys were located in either the South or West census regions (U.S. Census, 2015). A majority of responding municipal governments are a metropolitan principal city and have council-manager forms of governments. For responding cities, the average percent black is consistent with the national average, the average percent white is lower (-5.3%) than the national average, and the average percent Hispanic is higher (2.7%) than the national average (U.S.

Census Bureau, 2010). Figure 1 shows the location of each municipal government that responded to both the EECBG and ICS survey.

Table 1.
Descriptive Statistics of Cities Responding in 2010 EECBG and 2015 ICS Surveys

	<i>N=313</i>	
	<i>n</i>	<i>%</i>
<i>Region</i>		
Northeast	24	7.7
Midwest	70	22.4
South	100	31.9
West	119	38.0
<i>Metro Status</i>		
Principal city	186	59.4
Non-principal city	127	40.6
<i>Form of Government</i>		
Council-manager	105	66.5
Mayor-council	208	33.5
<i>Race/ethnicity (averages)</i>		
Percentage white		58.4
Percentage black		12.7
Percentage Hispanic		19.0

Figure 1. Municipal governments responding to both the EECBG and ICS survey



Results

Resources and Administration

Five analogous questions from the EECBG and ICS surveys collect information regarding municipal governments' resources and administration capacity for sustainability. The first question asks municipalities to describe staffing for sustainability activities in their city. The second question asks municipalities to describe whether their staffing for sustainability is best described as a city-wide task force, committee, or commission. Next, municipalities are asked to describe whether dedicated staffing is located within the manager's office or mayor's office. Lastly, municipalities are surveyed on whether there is a dedicated sustainability budget in their city.

Table 2 demonstrates how municipal governments' resources and administration for sustainability has changed over time. Since 2010, the number of municipal governments' indicating that there government had no dedicated staff working on sustainability increased from 116 to 149 (28.4%). The proportion of municipalities describing their sustainability staffing as a city wide task force, committee, or commission dropped by 36.4%. Dedicating staffing on sustainability located within the manager's office fell by 7.9% while dedicated staffing in the mayor's or council's office increased by 1.8%. The percentage of municipal governments who indicated a dedicated budget for sustainability was in place in their government dropped by 11.3%.

Table 2.
Resources and Administration for Sustainability

	2010		2015		% Change		
	<i>N</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>		
No dedicated staff working on sustainability (alternate)	272	42.7	116	54.8	149	12.1	↑
Has a city-wide task force, committee, or commission working on sustainability (alternate)	247	54.2	134	17.8	44	-36.4	↓
Dedicated staffing in city manager's office or equivalent	265	18.1	48	10.2	27	-7.9	↓
Dedicated staffing in the mayor's or council's office	266	3.8	10	5.6	15	1.8	↑
Dedicated budget for sustainability work	256	37.1	95	25.8	66	-11.3	↓

Collaboration

Several questions from the EECBG and ICS surveys provide insight into collaboration efforts to support sustainability. First, municipalities were asked to indicate whether their government has engaged in any of the following collaborative activities related to sustainability: worked collaboratively with other agencies or local governments in activities such as an inventory of GHG emissions; joined a collaborative partnership with other local entities; entered into an informal or formal agreement with one or more local governments; or engaged in joint purchasing with other governments. Second, municipal governments were asked to indicate the extent to which their government has worked cooperatively on sustainability efforts with the following organizations: federal and state agencies, neighboring cities within their county, regional organizations, and universities.

Table 3 demonstrates how municipal governments' collaboration efforts to support sustainability have changed over time. Since 2010, the number of cities collaborating with other agencies and local governments in activities such as an inventory of GHG emissions has

increased from 59 to 124 (110.2%). The proportion of municipalities indicating having joined a collaborative partnership with other local entities grew by 17.4%. Municipal governments entering into informal or formal agreements on sustainability issues increased by 15.8% and 10.5%, respectively. However, the number of governments engaged in joint purchasing with other governments to address sustainability issues fell from 70 to 41 (-41.4%).

Table 3
Collaboration for Sustainability

	2010		2015		<i>n</i>	% Change	
	<i>N</i>	%	<i>N</i>	%			
Worked with other agencies or local governments in activities such as an inventory of GHG emissions	267	22.1	59	46.4	124	24.3	↑
Joined a collaborative partnership with other local entities	265	36.2	96	53.6	142	17.4	↑
Entered into an informal agreement with one or more local governments on energy or sustainability issues	265	14.0	37	29.8	79	15.8	↑
Entered into a formal agreement with one or more local governments on energy or sustainability issues	266	14.7	39	25.2	67	10.5	↑
Jointly purchased energy services or equipment with another government	265	26.4	70	15.5	41	-10.9	↓

Figure 2 demonstrates the extent to which cities in our sample collaborate with federal, state, and university partners has changed since 2010. The proportion of municipal governments not collaborating with federal, state, and university partners decreased between 2010 and 2015, the largest decrease in federal agency-related collaborations. While the proportion of municipal governments working collaboratively to a great extent with federal agencies and universities increased, the proportion of municipal governments working collaboratively to a great extent decreased between 2010 and 2015. Overall, municipal governments reported a greater level of collaboration among federal, state, and university partners.

Figure 2. Extent of Collaboration with External Partners

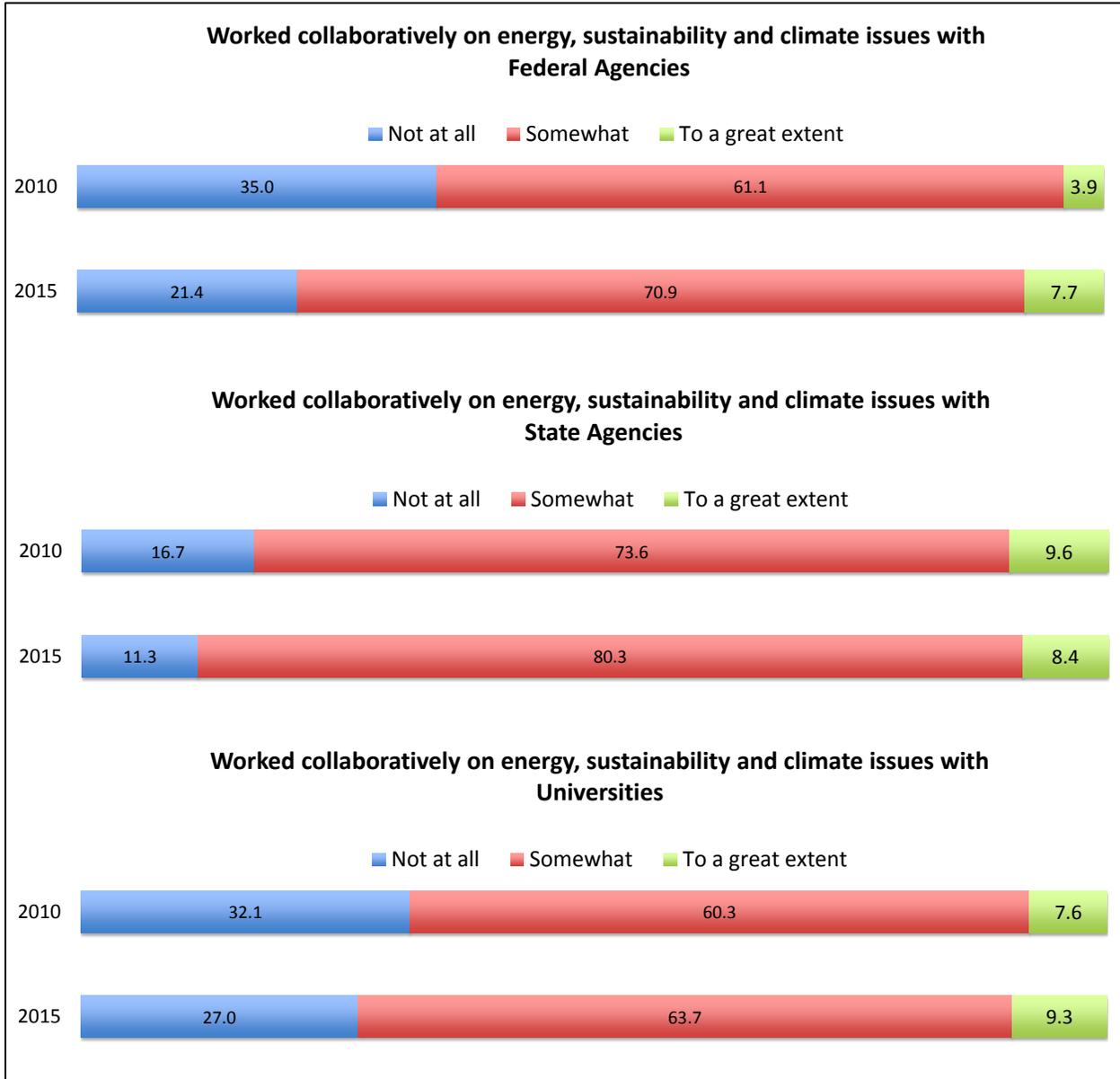


Table 4 demonstrates the change since 2010 in levels of participation in collaborative activities with other cities within their county and regional organizations. Since 2010, the number of municipal governments working collaboratively with cities within their county on

sustainability issues increased from 150 to 193 (28.7%), bringing the percentage of municipal governments working collaboratively with cities within their county from 62.2% to 80.1%. Collaboration among municipal governments and regional organizations increased by 7.9%, indicating that by 2015 close to 90% of responding municipal governments were collaborating with regional entities on sustainability.

Table 4
Collaboration for sustainability

	<i>N</i>	<i>2010</i>		<i>2015</i>		<i>% Change</i>
		<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	
Worked collaboratively on energy, sustainability and climate issues with						
Cities within your county	241	62.2	150	80.0	193	17.8 ↑
Regional organizations or partnerships	240	79.2	190	87.1	209	7.9 ↑

Community Support and Opposition

The EECBG and ICS surveys asked local governments to describe the extent to which sustainability efforts are supported by the general public, chamber of commerce, neighborhood organizations and environmental groups.

Table 5 demonstrates how support and opposition of local sustainability efforts has changed since 2010. Since 2010, the proportion of municipalities indicating moderate or strong support by the general public have decreased by 14.9%. However, municipalities indicating moderate or strong opposition by chambers of commerce, neighborhood organizations, and environmental groups have decreased from 15.2% to 34.4%.

**Table 5.
Community Support and Opposition for Sustainability**

	<i>N</i>	<i>2010</i>		<i>2015</i>		<i>%Change</i>	
		<i>%</i>	<i>n</i>	<i>%</i>	<i>N</i>		
Sustainability efforts are moderately or strongly supported by General Public	228	65.8	150	50.9	116	-14.9	↓
Sustainability efforts are moderately or strongly opposed by Chamber of Commerce	223	44.8	100	13.0	29	-31.8	↓
Neighborhood Organizations	218	38.5	84	4.1	9	-34.4	↓
Environmental Groups	223	16.1	36	0.9	2	-15.2	↓

Conclusion

Empirical analysis that documents how local sustainability policy and the administrative organization of sustainability programs changes over a large number of local government cases over multiple points in time remains absent. Are there temporal and/or spatial patterns in the sustainability initiatives? Has the administrative arrangement and organizational structure of local sustainability evolved? Has collaboration increased or decreased and how has community support changed over time? We seek to begin to address these questions by conducting a comparative analysis of cities surveyed under both the Integrated City Sustainability Database (ICSD) of 2010 and a recent survey of local governments.

We find surprisingly that fewer cities have dedicated staff working on sustainability overall compared to 2010. Similarly, fewer cities have a city-wide task force, committee or commission. There has been only a very small increase in staff working on sustainability that are located in the mayor’s office, compared to decreases in staff working in the manager’ office. A dedicated budget has also decreased. The results, however, point to greater collaboration – both in terms of the mechanism and the partners. Cities in our sample have increased collaborative activities with other cities in the region and with regional organizations, but have increased or decreased very little in collaborative activities with higher level governments and universities.

The results also suggest that while opposition from community interest groups has decreased since 2010, community wide support has decreased.

References

- Bae, J., & Feiock, R. (2013). Forms of Government and Climate Change Policies in US Cities. *Urban Studies*, 50(4), 776-788. doi:10.1177/0042098012450481
- Bai, X. (2007). Integrating Global Environmental Concerns into Urban Management. *Journal of Industrial Ecology*, 11(2), 15-29.
- Baumgartner, F. R., & Jones, B. D. (1993). *Agendas and instability in American politics*. Chicago, IL: University of Chicago Press.
- Berry, F. S., & Berry, W. D. (1990). State Lottery Adoptions as Policy Innovations: An Event History Analysis. *The American Political Science Review*, 84(2), 395-415. doi:10.2307/1963526
- Berry, F. S., & Berry, W. D. (1992). Tax Innovation in the States: Capitalizing on Political Opportunity, 715.
- Berry, W. D., & Baybeck, B. (2005). Using Geographic Information Systems to Study Interstate Competition, 505.
- Brody, S. D., Zahran, S., Grover, H., and Vedlitz, A. (2008). A spatial analysis of local climate change policy in the United States: Risk, stress, and opportunity. *Landscape and Urban Planning* 87: 33-41.
- Coenen, F., & Menkveld, M. (2003). The Role of Local Authorities in a Transition Towards a Climate Neutral Society. In W. J. V. V. M. T. J. Kok, A. P. C. Faaij, and D. de Jager (Ed.), *Global Warming and Social Innovation: The Challenge of a Climate Neutral Society* (pp. 107-125). London: Earthscan.
- Crain, R. L. (1966). Fluoridation: The Diffusion of an Innovation among Cities. *Social Forces*, 44(4), 467-476. doi:10.2307/2575080
- Feiock, R. C., Krause, R. M., Hawkins, C. V., & Curley, C. (2014). The Integrated City Sustainability Database. *Urban Affairs Review*, 50(4), 577-589. doi:10.1177/1078087413515176
- Godwin, M. L., & Schroedel, J. R. (2000). Policy Diffusion and Strategies for Promoting Policy Change: Evidence From California Local Gun Control Ordinances. *Policy Studies Journal*, 28(4), 760-776.
- Graham, E. R., Shipan, C. R., & Volden, C. (2013). The Diffusion of Policy Diffusion Research in Political Science. *British Journal of Political Science*, 43(3), 673-701. doi:10.1017/S0007123412000415
- Gray, V. (1973). Innovation in the States: A Diffusion Study. *The American Political Science Review*, 67(4), 1174-1185. doi:10.2307/1956539
- Grupp, F. W., & Richards, A. R. (1975). Variations in Elite Perceptions of American States as Referents for Public Policy Making. *The American Political Science Review*, 69(3), 850-858. doi:10.2307/1958394
- Hawkins, C. V., Krause, R. M., Feiock, R. C., & Curley, C. (2015). Making meaningful commitments: Accounting for variation in cities' investments of staff and fiscal resources to sustainability. *Urban Studies*. doi:10.1177/0042098015580898

- Hawkins, C. V., & Wang, X. (2012). Sustainable Development Governance: Citizen Participation and Support Networks in Local Sustainability Initiatives. *Public Works Management & Policy*, 17(1), 7-29. doi:10.1177/1087724X11429045
- Homsy, G. C., & Warner, M. E. (2014). Cities and Sustainability: Polycentric Action and Multilevel Governance. *Urban Affairs Review*. doi:10.1177/1078087414530545
- Jepson, E. J. (2004). The Adoption of Sustainable Development Policies and Techniques in U.S. Cities: How Wide, How Deep, and What Role for Planners? *Journal of Planning Education and Research*, 23(3), 229-241. doi:10.1177/0739456x03258638
- Koski, C. (2010). Greening America's Skylines: The Diffusion of Low-Salience Policies. *Policy Studies Journal*, 38(1), 93-117. doi:10.1111/j.1541-0072.2009.00346.x
- Krause, R. M., Feiock, R. C., & Hawkins, C. V. (2016). The Administrative Organization of Sustainability Within Local Government. *Journal of Public Administration Research and Theory*, 26(1), 113-127. doi:10.1093/jopart/muu032
- Kwon, M., Berry, F. S., & Feiock, R. C. (2009). Understanding the Adoption and Timing of Economic Development Strategies in US Cities Using Innovation and Institutional Analysis, 967.
- Lasswell, H. (1956). *The decision process*. College Park, MD: University of Maryland Press.
- Lindblom, C. E. (1959). The Science of 'Muddling Through', 79.
- Lubell, M., Feiock, R., & Handy, S. (2009). City Adoption of Environmentally Sustainable Policies in California's Central Valley. *Journal of the American Planning Association*, 75(3), 293-308. doi:10.1080/01944360902952295
- Opp, S. M., Osgood, J. L., & Rugeley, C. R. (2013). Explaining the adoption and implementation of local environmental policies in the United States. *Journal of Urban Affairs*, 36(5), 854-875. doi:10.1111/juaf.12072
- Opp, S. M., & Saunders, K. L. (2013). Pillar Talk : Local Sustainability Initiatives and Policies in the United States—Finding Evidence of the “Three E’s”: Economic Development, Environmental Protection, and Social Equity. *Urban Affairs Review*. doi:10.1177/1078087412469344
- Ostrom, E. (1999). Institutional Rational Choice: An Assessment of the Institutional Analysis and Development Framework. In P. Sabatier (Ed.), *Theories of the Policy Process* (pp. 21-64). Boulder, CO: Westview Press.
- Parisi, D., M. Taquino, S. M. Grice, and D. A. Gill. 2004. Civic responsibility and the environment: Linking local conditions to community environmental activeness. *Society and Natural Resources* 17: 97-112.
- Portney, K. E. (2003). *Taking sustainable cities seriously : economic development, the environment, and quality of life in American cities*: Cambridge, Mass. : MIT Press, c2003.
- Sabatier, P. A. (1999). *Theories of the policy process*. Boulder, CO: Westview Press.
- Sabatier, P. A., & Jenkins-Smith, H. C. (1993). *Policy Change and Learning: An Advocacy Coalition Approach*. Boulder, CO: Westview Press.
- Saha, D. (2009). Empirical research on local government sustainability efforts in the USA: gaps in the current literature. *Local Environment*, 14(1), 17-30. doi:10.1080/13549830802522418
- Saha, D., & Paterson, R. G. (2008). Local Government Efforts to Promote the “Three Es” of Sustainable Development: Survey in Medium to Large Cities in the United States.

- Journal of Planning Education and Research*, 28(1), 21-37.
doi:10.1177/0739456x08321803
- Shipan, C. R., & Volden, C. (2008). The Mechanisms of Policy Diffusion, 840-857.
- Walker, J. L. (1969). The Diffusion of Innovations among the American States. *The American Political Science Review*, 63(3), 880-899. doi:10.2307/1954434
- Wang, R. (2012). Adopting Local Climate Policies: What Have California Cities Done and Why? *Urban Affairs Review*. doi:10.1177/1078087412469348
- Wang, X., Hawkins, C. V., Lebrede, N., & Berman, E. M. (2012). Capacity to Sustain Sustainability: A Study of U.S. Cities. *Public Administration Review*, 72(6), 841-853. doi:10.1111/j.1540-6210.2012.02566.x
- Zeemering, E. S. (2009). What Does Sustainability Mean to City Officials? *Urban Affairs Review*, 45(2), 247-273. doi:10.1177/1078087409337297
- U.S. Census Bureau. (2010). *QuickFacts: United States*. Retrieved October 24, 2016, from <https://www.census.gov/quickfacts/table/PST120215/00>
- U.S. Census Bureau. (2015). *Census Bureau Regions and Divisions with State FIPS Codes*. Retrieved October 24, 2016, from http://www2.census.gov/geo/docs/maps-data/maps/reg_div.txt
- Zahran et al. (2008). Risk, stress, and capacity: Explaining metropolitan commitment to climate protection. *Urban Affairs Review* 43(4): 447-74.

Appendix x. EECBG and ICS Survey Question and Response Comparison

	2010 EECBG	2015 SoO	
<i>Resources and administration for sustainability</i>	<i>Staff</i>	25. Which scenario best describes staffing for sustainability activities in your city? a. No dedicated staffing for sustainability	12. Which scenarios best describes your city/town's staffing on sustainability f. No dedicated staff working on sustainability
	<i>Task Force</i>	24. Which best describes your local sustainability/energy taskforce, committee, or commission? b. My city has one with dedicated staff to support it, c. My city has one but it does not have dedicated staff	12. Which scenarios best describes your city/town's staffing on sustainability e. A city-wide task force, committee, or commission
	<i>Responsible Department Manager</i>	25. Which scenario best describes staffing for sustainability activities in your city? b. Dedicated staff based in the city manager/ECO office or equivalent	12. Which scenarios best describes your city/town's staffing on sustainability a. Dedicated staffing in the city/town manager's office or equivalent
	<i>Budget</i>	11. If the following programs have been adopted in your city, please indicate the time period within which they were first adopted c. Provided a budget specifically for sustainability efforts (Prior to 2009 and Adopted in or after 2009)	13. Does your city/town have a dedicated budget for sustainability work?
<i>Collaboration for sustainability</i>	<i>GHG inventory</i>	28. Has your government engaged in any of the following collaboration actions related to sustainability? b. Worked with other agencies or local governments in activities such as an inventory of GHG emission.	21. Has your city/town engaged in any of the following collaborative actions relating to sustainability, energy efficiency, or climate protection? a. Has worked with other agencies or local governments in activities such as an inventory of GHG emissions
	<i>Joined Partnership</i>	28. Has your government engaged in any of the following collaboration actions related to sustainability? c. Joined a collaborative partnership with other local entities	21. Has your city/town engaged in any of the following collaborative actions relating to sustainability, energy efficiency, or climate protection? b. Has joined a collaborative partnership with other local entities
	<i>Informal Agreement</i>	28. Has your government engaged in any of the following collaboration actions related to sustainability? d. Entered into an informal agreement with one or more local governments	21. Has your city/town engaged in any of the following collaborative actions relating to sustainability, energy efficiency, or climate protection? d. Has entered into an informal agreement with one or more local governments on energy or sustainability issues
	<i>Formal Agreement</i>	28. Has your government engaged in any of the following collaboration actions related to sustainability? e. Entered into a formal agreement with one or more local governments on energy issues	21. Has your city/town engaged in any of the following collaborative actions relating to sustainability, energy efficiency, or climate protection? e. Has entered into a formal agreement with one or more local governments on energy or sustainability issues
	<i>Jointly Purchased</i>	28. Has your government engaged in any of the following collaboration actions related to sustainability? a. Joint purchasing with other governments	21. Has your city/town engaged in any of the following collaborative actions relating to sustainability, energy efficiency, or climate protection? f. Has jointly purchased energy services or equipment with another government
	<i>Federal Agencies</i>	26. To what extent does your city work cooperatively on energy or climate issues with the following organizations? e. Federal agencies other than DOE	23. To what extent does your city/town work collaboratively on energy, sustainability and climate issues with the following entities? f. Federal agencies

<i>Neighbor Cities</i>	26. To what extent does your city work cooperatively on energy or climate issues with the following organizations? a. other cities within your county	23. To what extent does your city/town work collaboratively on energy, sustainability and climate issues with the following entities? a. other cities within your county
<i>Regional Organizations</i>	26. To what extent does your city work cooperatively on energy or climate issues with the following organizations? h. Regional organizations or partnerships	23. To what extent does your city/town work collaboratively on energy, sustainability and climate issues with the following entities? j. Regional organizations or partnerships
<i>State Agencies</i>	26. To what extent does your city work cooperatively on energy or climate issues with the following organizations? d. State agencies	23. To what extent does your city/town work collaboratively on energy, sustainability and climate issues with the following entities? e. State agencies
<i>Universities</i>	26. To what extent does your city work cooperatively on energy or climate issues with the following organizations? c. Universities	23. To what extent does your city/town work collaboratively on energy, sustainability and climate issues with the following entities? d. Universities

Support and Opposition for sustainability

<i>Public</i>	29. To what extent would you say that the following individuals or groups support or oppose energy conservation and sustainability efforts by your city government? h. General Public	24. To what extent do the following groups support or oppose climate protection efforts by your government? a. General public
<i>Chamber of Commerce</i>	29. To what extent would you say that the following individuals or groups support or oppose energy conservation and sustainability efforts by your city government? a. Chamber of Commerce	24. To what extent do the following groups support or oppose climate protection efforts by your government? b. Chamber of Commerce
<i>Neighborhood Organizations</i>	29. To what extent would you say that the following individuals or groups support or oppose energy conservation and sustainability efforts by your city government? b. Neighborhood Organizations	24. To what extent do the following groups support or oppose climate protection efforts by your government? c. Neighborhood associations
<i>Environmental Groups</i>	29. To what extent would you say that the following individuals or groups support or oppose energy conservation and sustainability efforts by your city government? c. Environmental Groups	24. To what extent do the following groups support or oppose climate protection efforts by your government? d. Environmental groups
