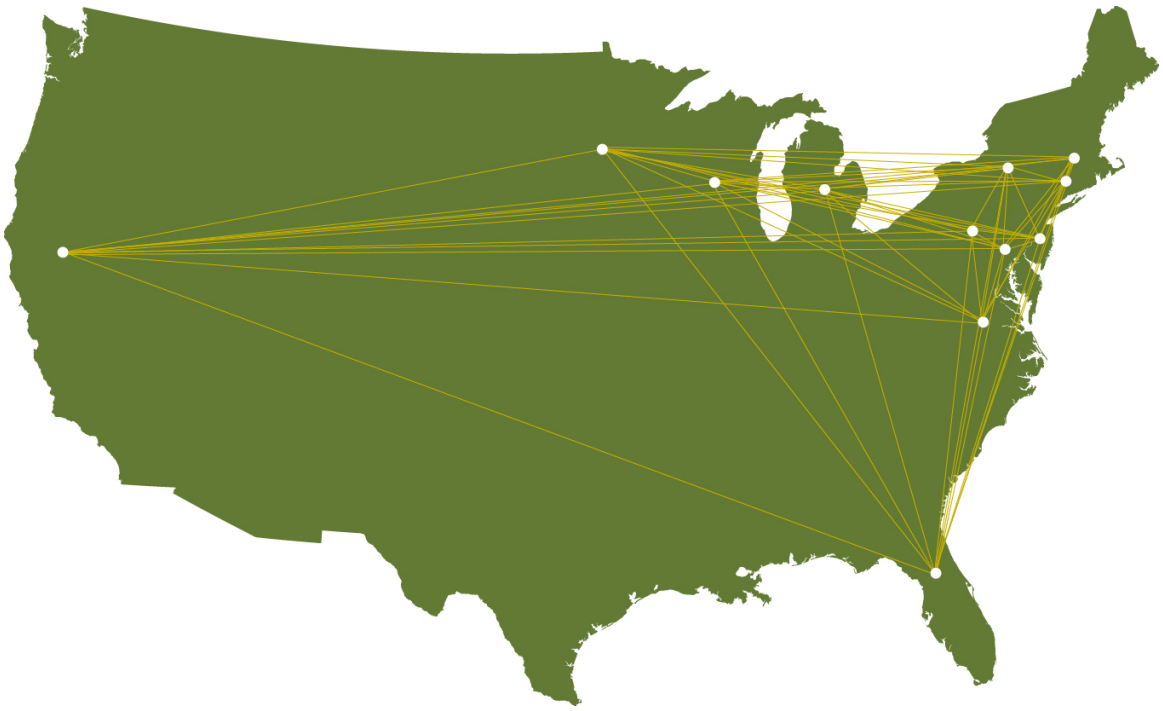
Statewide Change, One Community at a Time:



A Comparative Study of Collaborative State-Local Sustainability Programs

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EXECUTIVE SUMMARY

In order to meet the sustainability imperative, how can we best marshal local forces and scale them up to achieve significant and timely impact? Over the past decade, at least a dozen programs have formed at the state scale that set standards, provide guidance and coordinate the provision of resources in order to promote local action for sustainable transformation. Coordinated by these programs, thousands of local governments have placed sustainability on the local policy agenda and implemented tens of thousands of discrete sustainability projects within a short span of time.

Municipal certification or recognition is generally a signature element of these programs; yet, certification is often merely the visible tip of an iceberg of collective action aiming to coordinate priorities, policy, and resources among state and local, public and private actors. These state-local sustainability programs link rating systems, resources, and rewards, often though novel bottom-up meets top-down governance structures. The result is a new pathway for progress that blends the resources and capacity of state government and other statewide actors with the strengths of local government and communities in flexible and innovative implementation.

Funded by the Surdna Foundation, this study was guided by a working group comprised of representatives of five such state-local sustainability programs. Together we determined the goals of the study, namely: to identify all statewide local sustainability programs currently active in the U.S.; to characterize their variation and scope; to investigate correlations among their program structure, funding, participation, and growth; and to articulate their challenges and needs.

The resulting report is the first part of a multi-year effort to support the growth of state-local sustainability programs and evaluate their potential. A draft of the report was presented and discussed in depth at the first national convening of state sustainability programs, held in New Brunswick, NJ from December 10-12, 2015. The consensus among participants underscored the findings from study respondents: they see great potential in coming together to engage national partners, attract resources, and learn from each other. They unanimously agreed to work together to take steps to form a national network. To get started on that path, they established two working groups that have subsequently continued to meet to explore network form and function, pursue collective data-sharing, and plan a second convening for September 2016.

Who Are They?

This study identified twelve collaborative statewide programs that recognize local governments for achieving voluntary sustainability-related standards. They were categorized as four major types: state government, public-private, membership-based, and non-profit/university-based. As established by agency or legislative mandates, the three state-led programs are focused on energy or energy and climate change. The other types share a broader focus on general sustainability that comes from a more diverse stakeholder base.

The twelve state-local sustainability programs

State	Program	Type
CA	Green Cities California	Membership-based
CT	Clean Energy Communities	State government – Energy focus
FL	Florida Green Building Coalition	Membership-based
MA	Massachusetts Green Communities	State government – Energy focus
MD	Sustainable Maryland	NGO/University
MI	Michigan Green Communities	NGO/University
MN	Minnesota GreenStep Cities	Public-private partnership
NJ	Sustainable Jersey	NGO/University
NY	New York Climate Smart Communities	State government – Energy/Climate focus
PA	Sustainable Pennsylvania	NGO/University
WI	Wisconsin Green Tier Legacy Communities	Public-private partnership
VA	Go Green Virginia	NGO/University

What Do They Do?

Beyond standards and certification, these programs offer local governments and communities an array of resources and incentives:

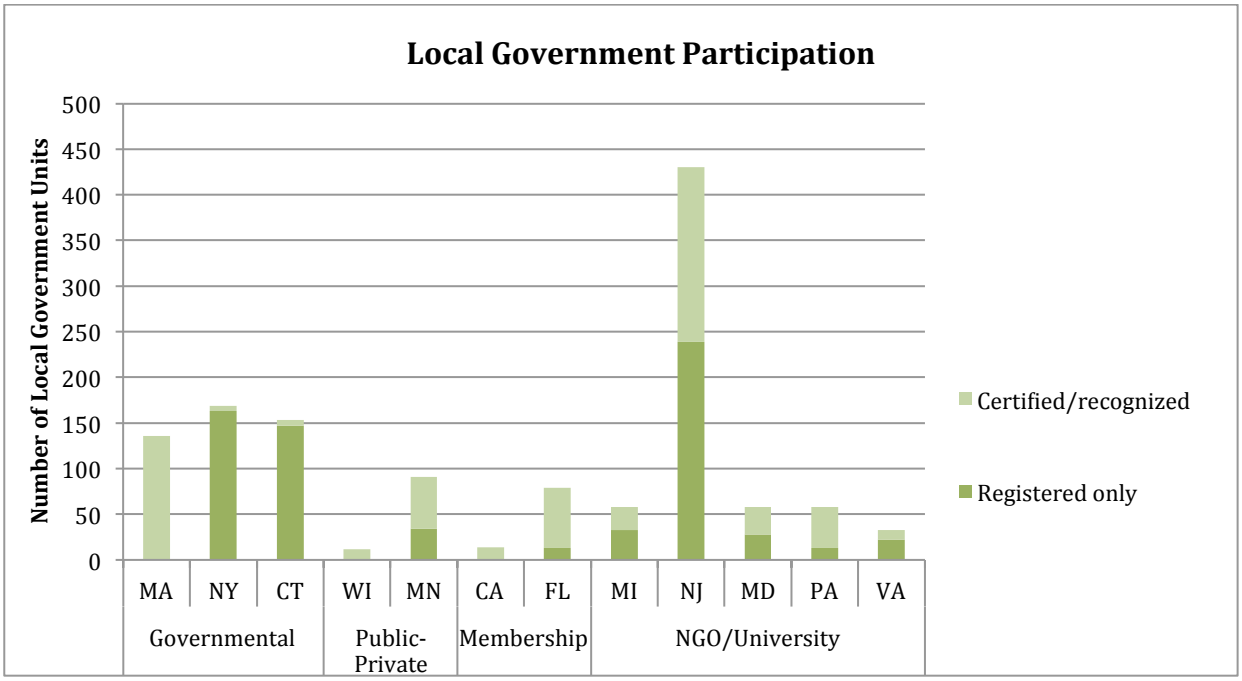
- Informational resources, tools and training
- Peer-to-peer exchanges
- Technical assistance and mentoring
- Coordination with and among government agencies
- Access to resources from multiple sectors
- Incentives: financial resources
    - Direct government funding
    - Direct competitive grants
    - Preferential access to state funding
- Incentives: recognition
    - Certification and/or other forms of formal recognition

Participation and Growth

Although demonstrating how well the programs succeed in promoting sustainability is one of their major goals (see below), accepted impact metrics and data are lacking. In their absence, the rate of growth of municipal participation in state sustainability programs tells us something about their vitality, their reach, and how their value is perceived locally. The study generated several findings based on participation data:

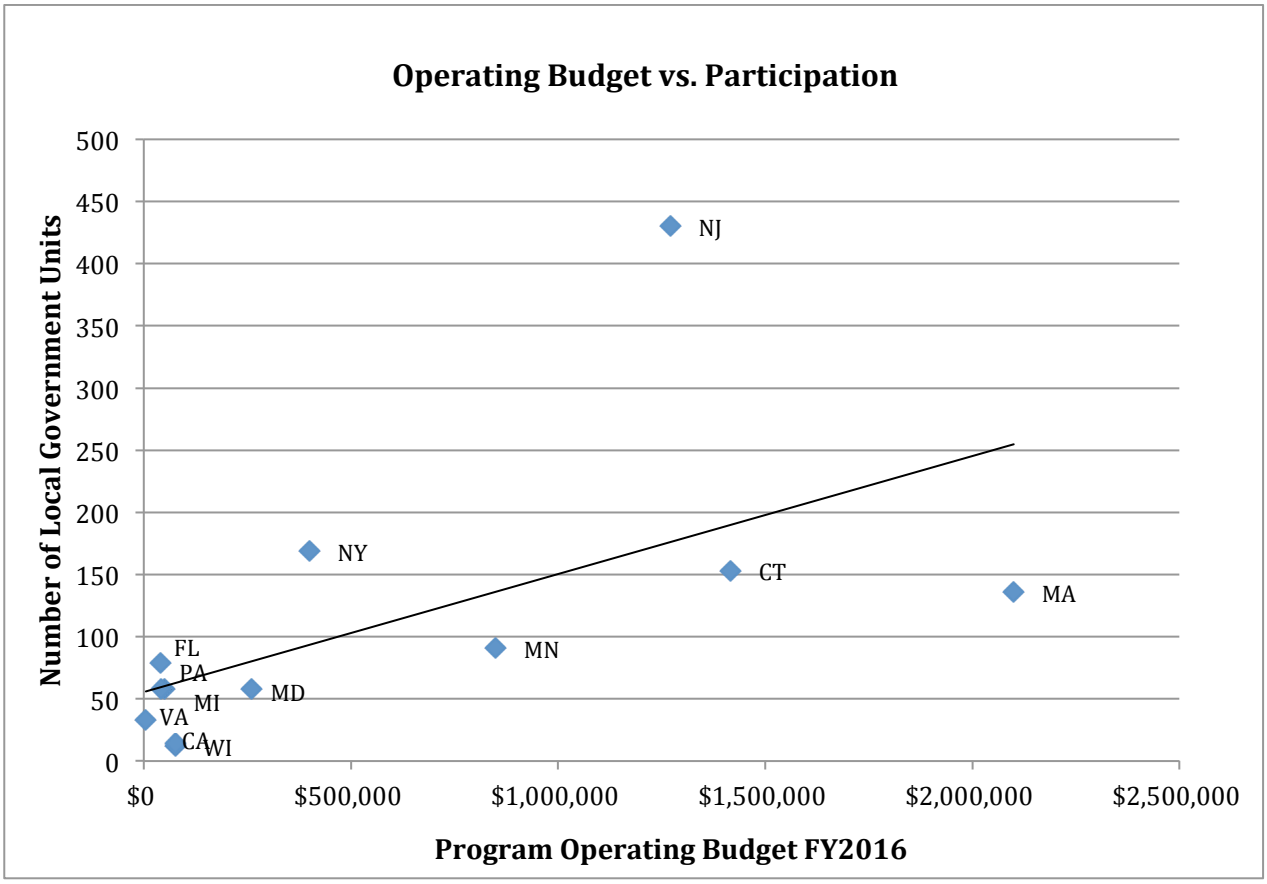
- ***Participation Weakly Linked With Type***

As a class, governmental programs sustain the highest numbers of participants, but there is no other clear correlation between organizational type and scale.



- ***Money Counts***

Access to adequate funding for staff and the ability to offer or link municipalities to funding are the strongest determinants of the levels of early participation in the programs. State-led programs as a whole tend to have larger budgets and higher rates of entry-level participation.



Most of the non-state programs have small budgets relative to their ambitions and the size of their target populations. In some cases, where non-state programs have achieved close coordination with states and tapped into multiple sources, they have succeeded in raising substantial budgets and higher levels of municipal participation.

- ***It's Not Just Money***

Although state-based programs with larger budgets garner high rates of initial participation, they are less successful in advancing communities toward certification or equivalent recognition. The NGO/university-led programs tend to have higher proportions of their participating communities achieving recognition.

A hallmark of these state-level sustainability programs is that they not only set standards for local governments, they provide guidance and resources to support their achievement. Their experience confirms the above results and, consequently, funding for operations and direct grants to local governments rose to the top of the list of challenges and needs cited by respondents.

Challenges and Needs

- Funding and staffing
- Supporting uptake by numerous small and/or low-capacity communities
- Lack of impact metrics and data
- Working with diverse community types
- Marketing program, expanding community participation
- Managing growth
- Lack of coordination among state agencies and with local parties
- Negotiating politics: staying non-aligned yet effective

Value and Roles of a National Network

Asked to reflect on the value and potential functions of a national network of state-local sustainability programs, study participants proposed the following:

- Peer learning and networking
- Educating funders and national policymakers; sharing resources
- National standards and demonstrating collective impact
- Collaborative products
- Regional level coordination
- Developing new areas of practice
- Visibility, shared voice: movement building

Program proponents also understand that while attaining high levels of participation is a necessary condition for achieving large-scale impact, in order to show that participation in their programs is in fact making the world more sustainable--and thereby make the strongest case for more funding and support--they will need to meet the challenge of demonstrating that impact. Thus, the participants in this study expressed a keen interest in networking to engage national partners, raise their profile, attract resources, and learn from each other how best to make (and measure) impact – one community at a time.

INTRODUCTION

This report presents findings from a study of a new breed of sustainability and energy programs that operate at the statewide level in the United States to harness the power of local government to make change. Over the past decade, at least a dozen programs have formed that work at the state scale to set standards, provide guidance, coordinate the provision of resources, and incentivize local governments to take voluntary action. As a result, thousands of local governments are now placing sustainability on the local policy agenda and implementing tens of thousands of discrete sustainability projects within a short span of time.

Municipal certification or recognition is generally a key plank of these programs; yet, certification is often merely the visible tip of an iceberg of collective action aiming to coordinate priorities, policy, and resources among state and local, public and private actors. Sometimes formally stated, sometimes not, the objective of these programs is to create a new pathway for progress by blending the resources and capacity of state governments and other actors with the strengths of local government and communities in flexible and innovative implementation.

This study was made possible by the generous support of the Surdna Foundation and the generous participation of all twelve peer state-based sustainability programs. Its findings are presented in this report, which aims to portray the range and scope of these programs, investigate how that variation affects participation, document what they have accomplished, and articulate their challenges and needs. Statewide programs (whether public or private) are well positioned to propel change at the local level, and statewide certification and recognition of local programs have been making surprising inroads into communities. How can leading state programs collaborate to be more effective drivers of local change, and is there a role for national organizations to support their efforts?

This report is the first part of a multi-year effort to support the growth of these programs and evaluate their potential for catalysing sustainability innovation and progress at the local level. The draft paper was presented and discussed in depth at the first national convening of state sustainability programs, held in New Brunswick, NJ from December 10-12, 2015. The overall consensus of participants[1] in the convening strongly supported the findings of this study: state-level programs that recognize and support sustainability initiatives at the municipal level have much to gain from collaborating to amplify their growing impact in the service of sustainable social transformation.

Why Local Government?

The importance of the local scale to implementing sustainable development is well established in the literature and movement.

> The kind of change required by sustainability implicates each community, each household, and each individual. Successful solutions to problems at this level of society will need to be rooted in the cultural specificity of the town or region if the people are to be supportive of and involved in such change.
> *UNESCO (1997) Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action*

Nonetheless, it is a significant challenge to drive change in tens of thousands of independent local governments (in the United States alone) at a rate and trajectory sufficient to address regional and

1 Twenty-three representatives of ten out of the twelve state programs participated in the convening. Among national partners, three representatives from the EPA and four from the funders also attended. The meeting was primarily funded

global sustainability imperatives, such as water resource management, climate change mitigation and adaptation, land preservation, and alleviating poverty and regional inequity.

Federalism, or the subsidiary principle, offers guidance for allocating responsibility among different levels of government. Responsibility should rest with the smallest unit of government, closest to the people that are up to the task. Higher levels of government have the capacity to study complicated problems and to research, develop and apply resources toward implementing innovative solutions. They have the ability to take a big-picture view of issues so that local action can be coordinated to achieve regional and global aspirations. But top-down strategies are often too far removed from the practical realities of local implementation to be effective, and top-down decision-making can breed resentment and political resistance that limits action.

Smaller units of government are more responsive to community needs and are best able to adapt solutions to local variations in preferences and conditions. Increasingly, cities in the U.S. are investing in sustainability departments, and a number of metro areas have emerged as sustainability hubs and global leaders. Most local governments, however, have very limited resources to assess and implement new strategies to address emerging problems. Moreover, when higher levels of government fail to act, focus inevitably shifts to more local actors.

Innovations spread among municipalities and counties gradually, with each learning at a different pace and incurring new transaction costs associated with adapting and adopting them. Converting local advances into widespread transformation through the dissemination of innovation and best practices poses a significant challenge. Given these dynamics, how can the limitations of local governments be overcome so that their strengths can be leveraged as engines of innovation and sustainable transformation?

Managing Multiple Municipal Madness

Harnessing the potential of local governments to advance sustainability has been an active and exciting field of endeavour. Following the 1987 Brundtland Commission Report that spurred the formation of the International Coalition of Local Environmental Initiatives (later ICLEI), approaches to accelerating progress in localities have proliferated. These include conceptual and community- and NGO-led approaches such as local Natural Step and Eco-villages, eco-districts and other district-level sustainability schemes, Transition Towns, Low (or Zero) Carbon Towns, One Planet communities, STAR Communities, and the Urban Sustainability Directors' Network; as well as more conventional government-led approaches such as US EPA's Climate Showcase Communities program or HUD's Sustainable Communities Initiative, and many more.

Although these efforts have made a significant difference, anecdotal evidence suggests that sustainability is still not a meaningful part of the agenda in the vast majority of local governments in the U.S. Few would argue that the current situation is adequate to meet current and mounting threats to sustainability.

Reaching and providing meaningful guidance and resources to the numerous and diverse body of local governments has been a challenge for these programs. The specific sustainability challenges faced by local governments vary around the world due to differing economic, social, and environmental conditions. For example, an affluent community in the Northeastern United States would need to focus on flooding and over-consumption. An economically depressed community in the Southwest faces drought and economic deprivation. Similarly, the solutions, even to similar problems, will vary significantly across state borders. State laws and policies, modes of organizing local government, settlement patterns, and cultural norms all define what will constitute a successful strategy at the local level.

Why States?

States would seem to be a logical unit of engagement for advancing local change in the United States. States are the unit of government that, through legislative action, defines the powers and role of local government generally. States are the frontline implementers of major environmental, social, and economic policies and programs. States are also significant funders of local government through various types of shared taxes, grants, and intergovernmental transfers. States are large enough to make investments, conduct research and adopt innovations, think regionally, and organize significant and systemic changes. But they are also large enough that top-down programming often misses the mark or spurs local resistance.

As a result of the uniform policy context and the geographic and environmental similarities within most states, sustainability issues and solutions are often fairly uniform within states, but differ, sometimes radically, among states. For example, some states pre-empt local governments from taking a role in setting building codes, by law eliminating their regulatory role in promoting green building. In other states, municipalities are authorized to exceed statewide minimums. Environmental conditions are relatively more similar within states so that, for example, similar green building designs will be optimal throughout a state like Florida or Minnesota, but very different between them. Therefore, guidance on how to structure a legal and effective local green building initiative and how to judge a municipality's efforts should also vary significantly from state to state.

Policy guidance to municipalities coming from national organizations must stay at a relatively high level of generality, whereas state oriented programs can tailor solutions to state policy and legal contexts. Furthermore, most national and NGO-only programs also will have a limited ability to provide resources. Although the Federal Government and some national foundations provide important technical assistance and sustainability-related grants to local governments, their total contribution is dwarfed by the resources that are transferred between state and local governments, and regional foundations, within each state.

Therefore, state oriented programs are able to provide technical assistance and policy direction to local governments that is highly specific and tailored to local conditions, and they have the ability to marshal significant resources to support new policy directions that take advantage of the pre-existing networks of funders and resources providers that are already oriented around state boundaries.

State and Local Governance: Finding Synergy

Over the past decade a number of statewide local government sustainability certification or recognition programs have established frameworks for supporting local change by providing guidance, standards, resources, recognition, and other incentives. On the strength of early evidence, these programs seem to have found a model that takes advantage of the relative strengths of local and state approaches, while mitigating many of the weaknesses. Characteristically, these programs:

- are strictly voluntary and incentive-based;
- provide guidance and standards for local governments on a broad array of sustainability and/or energy issues;
- offer some form of certification or recognition to local governments that demonstrate they have met the set standards;
- deploy this recognition to spur virtuous competition among communities to drive change;
- foster robust peer-to-peer learning and dissemination of innovation among local governments;
- build local capacity through the formation of sustainability commissions or green teams; and
- funnel resources to support municipal progress or to reward it.

Some are able to marshal broad collective impact by forging partnerships between key public entities, such as state government, NGOs, such as state leagues of municipalities, environmental groups or universities, and private sector actors, such as investor-owned utilities and corporate foundations.

A COMPARATIVE STUDY OF COLLABORATIVE STATE-LOCAL SUSTAINABILITY PROGRAMS

Research Goal, Questions and Methods

During the first phase of this project, a working group comprised of representatives from five leading state-local voluntary sustainability standards programs convened to explore the potential in mutual collaboration. Over the course of several conference calls and email exchanges, the working group provided major input to study design and findings, the primary responsibility for which fell to the staff of The Sustainability Institute at The College of New Jersey (home of Sustainable Jersey). Together the working group decided on the following scope, goal and research questions for the study.

Scope

This study will focus on state-level programs that promulgate voluntary broad-based sustainability and energy standards for general service local governments, including municipalities, and in some cases, counties. In this case "broad-based" means that the program must cover a range of best practices and topics representing multiple dimensions of sustainability. Energy- or energy and climate-only programs were included for several reasons: (1) their content overlaps significantly with most broader sustainability programs, incorporating related domains such as land use and waste management; (2) they offer certification based on numerous multi-parameter standards; and (3) energy and climate are preeminent issues driving unsustainability. However, other types of single-issue programs, such as clean communities or wellness or dozens of other more narrowly focused programs, were not included.

Goal

The goals of this study are to identify best practices, challenges, needs, and opportunities for collaboration among these programs, including an exploration of the potential benefits of forming a national network.

Research questions (condensed):

- What state-level municipal sustainability certification and voluntary standards programs are found in the US today?
- How and by whom were they initiated?
- How are they funded?
- How are the programs structured? How are decisions made?
- Who are the partners and what are their roles?
- What are the major components of the certification/recognition programs?
- Are programs tracking progress and impact? If so, how?
- What level of participation has been achieved to date?
- What issues, needs, or obstacles do program proponents identify?
- What value do proponents see in a national network?
- What program characteristics correlate with a high level of participation?

It is important to note at the outset that this study does not assess impact and effectiveness. Primarily descriptive and based exclusively on empirical data, it does not attempt to evaluate these programs.

Some inferences regarding comparative impact can be drawn from the examination of participation rates and their correlations with other program characteristics (e.g., budgets). However, those inferences should be viewed cautiously as there is great variation in the context and level of difficulty of the certification schemes. Future research is needed to develop and apply methods to measure the local and collective impact of statewide municipal sustainability programs across its multiple dimensions. With such data in hand, it will then be possible to assess the comparative effectiveness of programs and to investigate correlations between sustainability outcomes and features of program design and implementation.

Methods

In order to address the first research question and identify the universe of state-local municipal voluntary sustainability-related standards in the United States, we began by canvassing the working group. We drew on their insider knowledge and previous, unpublished research[2] to compile the initial list of programs. We then conducted a thorough internet-based search for all such programs in the United States, and followed leads (snowball sampling) provided to us by other states. From this wider list, twelve[3] programs were identified that were active and met the key criteria.

With input from the working group, an interview guide was developed based on the research questions (2-10). We then conducted 1-2.5 hour semi-structured, key informant interviews over the telephone with 1-3 representatives at a time from the staff of each of the twelve programs. Each program website also provided an important source of data. Follow-up exchanges, conducted mostly by email, enabled data gaps to be filled and issues clarified. Members of all twelve programs provided comments on report drafts via email and at the three-day convening held in December 2015.

Finally, participant observation as Sustainable Jersey staff and experience in the field on the part of the authors informed and enriched the data pool and analysis.

Note: All quotations are drawn from one of two empirical sources: interviews or program websites. Since the context makes clear when the source is an anonymous interview respondent or a website (see Table 1), no further citation is necessary.

Characterizing State Sustainability Programs

Who are they? Major types

In the broadest sense, the twelve cases (Table 1) in this study share a common identity as collaborative state-local voluntary standards programs that support and recognize local governments and communities for implementing sustainable policies and practices. While each of the twelve programs in this study is unique in its evolution, form and state context, sorting them into groups helps us to make sense of this diversity and identify factors correlated with robust programs and effective outcomes. (See the Appendix for profiles of each program).

[2] This research was conducted by intern Patrick Mathwig for the Great Plains Institute, one of the lead partners in Minnesota GreenStep Cities.

[3] The initial list and interviews also included Cool Cities California. However, it was later decided that this municipal contest program does not fit the study's criteria sufficiently well to be included as one of the core set. Additionally, the North Carolina League of Municipalities' Green Challenge still has a website, but has been inactive for several years. National or metro-area programs were also excluded.

Table 1. The twelve state sustainability programs

State	Program	Website
CA	Green Cities California	http://greencitiescalifornia.org/
CT	Clean Energy Communities	http://www.energizect.com/communities/programs/clean-energy-communities
FL	Florida Green Building Coalition	http://www.floridagreenbuilding.org
MA	Massachusetts Green Communities	http://www.mass.gov/eea/energy-utilities-clean-tech/green-communities/
MD	Sustainable Maryland	http://sustainablemaryland.com/
MI	Michigan Green Communities	http://www.mml.org/green/
MN	Minnesota GreenStep Cities	http://greenstep.pca.state.mn.us
NJ	Sustainable Jersey	www.sustainablejersey.com
NY	New York Climate Smart Communities	http://www.dec.ny.gov/energy/50845.html
PA	Sustainable Pennsylvania	http://www.sustainablepacommunitycertification.org
WI	Wisconsin Green Tier Legacy Communities	http://greentiercommunities.org/
VA	Go Green Virginia	http://www.gogreenva.org/?/green_government_challenge

The first critical distinction among the programs concerns their substantive focus, which falls into one of two major categories. Specifically, the mission of three-quarters of the programs in the study is to advance a more or less broad vision of 'sustainability' as a whole, while the other set is more narrowly focused on one major component of sustainability: energy. Within the energy-focused category, an explicit emphasis on climate change by Climate Smart Communities (NY) broadens its mission to incorporate climate resilience goals.

The sustainability-focused programs define sustainability in a more or less expansive fashion and thus can be further classified according to the specific range of practices they incorporate (Table 2). This variation can be expressed in terms of a common definition of sustainability that invokes its three pillars: a healthy environment, a thriving economy, and an equitable society, also known as the three E's. The third E is often defined more broadly as 'society,' including governance as well as social welfare.

While there is inevitably crossover among these interrelated goals, sustainability programs do place varying degrees of emphasis on one or the other, and thus can be loosely categorized on this basis. All sustainability programs recognize environmental standards and best practices concerning the first E, which generally embraces not only the 'natural' environment, but all biophysical elements, including the built environment/land use, energy and waste. Some programs, such as the Green Government Challenge (VA), stop more or less here. Although these programs may indirectly bring in an economic element in connection with energy and cost efficiency, they do not incorporate goals and actions directly targeted at local economic activity. In contrast, "Green business development" (MN), for

example, is a category of best practices from a program with a relatively strong economic, or second E, component.

In addition to environment and economy, four programs (CA, NJ, PA, MD) not only call out the third E, social equity, as an explicit value, but also provide actions for communities to follow to move closer to that goal, such as "Environmental Justice in Planning & Zoning" (NJ) and "diversity and inclusion" in municipal hiring (PA). These programs also address broader aspects of the social and political dimensions of sustainability beyond their inequitable distribution, such as governance, e.g., "open data" (NJ), arts and culture, e.g., "creative place-making" (NJ), and health, e.g., "healthy food systems" (CA). Sustainable Jersey's program materials refer to the whole social domain as the "people" dimension, quoting another popular catch-phrase for the sustainability triad: "people, planet, prosperity."

Wisconsin's Green Tier Legacy Communities exemplifies a final variant in focus: it might be characterized as a '2E' program in in which the second 'E' is not economy, but equity (e.g., crime prevention, affordable housing).

Table 2. State programs classified by focus area

FOCUS:	State Programs:
Energy/Climate	MA, NY, CT
Sustainability: 1E (environment/energy)	VA
2E (environment/energy + economy, or	MN, FL, MI
environment/energy + equity/social)	WI
3E (environment/energy + economy + equity/social)	NJ, PA, CA, MD

This study identifies a second major axis of difference characterizing the major features of state sustainability programs. The second axis distinguishes four types on the basis of the institution or institutional arrangement that underpins, directs and/or administers the program (see columns in Table 3). Since one institutional category (state-based) is exclusively made up of all the energy-focused programs, the two main axes define only four major program types.

Table 3. Major Types of State Sustainability Programs

INSTITUTIONAL BASE:

FOCUS:	State Government	Public-Private	Membership	NGO/University
Energy/Climate	MA, NY, CT*			
Sustainability		WI, MN	CA, FL	NJ, MD, PA, VA, MI

1) Government program:

The three governmental programs (MA, CT, NY) are defined by state policies, directed by state agencies, and funded by state dollars, with a variable role for the private sector. Funded largely by a surcharge on

ratepayers, Connecticut's Clean Energy Communities program is administered by the state's two major energy utilities, which are investor-owned, publically traded entities, together with the Connecticut Green Bank, a quasi-state entity[4].

All of the energy programs in this study are at the same time governmental, and vice versa. Among state energy programs across the country, these three programs have in common with the rest of those in our study their use of a certification approach. Moreover, New York's climate focus incorporates broader elements of sustainability (e.g., land use), and the other two states have expressed interest in expanding the program to cover additional elements as well.

2) Public-private partnership:
Although the non-governmental programs (types 2-4) typically involve some role for state agencies in conjunction with other partners, the state agency and primary non-profit partner are more or less co-equal in Minnesota and Wisconsin.

3) Membership organization:
The Florida Green Building Coalition and Green Cities California are both membership-based networks that are primarily funded by dues paid by members. Beyond that, the differences within this class of two are significant. A non-profit 501(c)(3) and thus under a Board of Directors, FGBC offers six types of certification of which 'local government' is only one. Green Cities California is an informal network comprised solely of local governments represented by sustainability directors; all policies as well as annual work plans are determined directly by members through their members-only steering committee. Applications, generally submitted by invitation, are evaluated on the basis of a set of standards analogous to the certification standards of the other programs.

4) NGO/University:
The largest and most diverse of the organizational types are those led by non-governmental organizations and/or universities. Both Sustainable Maryland and Sustainable Jersey are associated with grant-funded centers within a state college or university that also pursue related, broader program areas. Under a unique arrangement, Sustainable Jersey was co-initiated by state government and NGO actors, and formed a 501(c)(3) non-profit directed by a diverse Board of Trustees. The non-profit executed a multi-year agreement with the Sustainability Institute at The College of New Jersey to run the program. Sustainable Maryland is run directly by the Environmental Finance Center at the University of Maryland. In Virginia, Michigan and Pennsylvania, sustainability certification is a program of the respective state's municipal league. In a unique arrangement in Pennsylvania, certification standards and operations are handled for the whole state by an independent non-profit organization, Sustainable Pittsburgh, which had been running a pre-existing sustainability certification program in its metro area[5].

In addition to the role as lead organization in those three states, municipal leagues are key partners in four other state sustainability programs (WI, MN, NJ, MD). Separate associations of counties are also engaged in a few programs (VA, WI), particularly in support of smaller rural localities. Non-profit statewide associations of local governments are found in 49 states in the country and most of these belong to national associations. This level of organization places local government associations in a good position to help disseminate and support successful models for state-local voluntary sustainability standards programs.

The role of state government within this type deserves special attention. Although all of the non-state programs aspire to tight coordination with, and support from the state government, variation in how, and to what degree, this occurs is worthy of analysis. New Jersey's program was co-initiated by the state, and the NGO Board of Trustees has state agency representatives that serve in an ex-officio capacity on the Board, and receives significant state funding (about one-third of the total). The state

[4]A quasi-state agency that leverages public and private funds to accelerate the grown of clean energy in Connecticut
[5] Sustainable Pittsburgh also conducts for sustainability certification programs for large and small businesses, and one for restaurants, as well as a Green Workplace Challenge.

also integrates many of its programs with, or delivers them through, Sustainable Jersey. While Sustainable Pennsylvania has received significant support from individuals within state agencies, it is working to address the lack of formal state participation to date. Understanding models and best practices for integrating state, NGO and university actors is a topic of significant interest among the twelve state programs.

When attempting to classify the twelve state sustainability programs into types or to compare them directly as we do throughout this report, it is important to keep in mind that their form, function and potential are all profoundly shaped by their context. The ability to be responsive to contextual factors is one of the strengths of the state-level approach. Yet, context-sensitivity also makes direct comparison of state programs problematic.

Sustainability programs are influenced by past and present policies along with administrative structure and practice in areas pertaining to their mission -- energy, land use, transportation, natural resources, economic incentives, taxation and more. In the U.S. federal system of government, the structure and division of power between state and local forms of government is unique in each state. Additionally, the number and functions of local government units vary tremendously among the twelve states in the study. For example, Pennsylvania takes the prize for the highest number of municipal government units at 2,562; of these only 500 constitute "full service" communities that provide basic services, such as police, fire, and public works. At the low end, Maryland's 157 municipalities contain only about 30% of the population, the remainder residing either in Baltimore or in unincorporated territory within counties. Consequently, Maryland is among the seven programs in the study that currently certify counties or plan to do so.

Often crossing state boundaries, different constraints and opportunities are posed by ecological (climactic zones, watersheds, etc.), economic (industries, crops, state treasuries, etc.) and other regional factors. All of the above play into the political culture and broader sets of values, preferences and lifestyles that vary among states and regions and also subtly shape which approaches to inspiring and recognizing sustainability at the local level will catch on and spread.

How did they get started? Origin of state programs

While each state sustainability program has a unique origin story and course of development, they can again be sorted into general groupings on this basis as well. We can divide them roughly in half into 'established' groups, the first of which began in Florida in 2004, and the 'new' groups, which are five years old or less[6] (see Table 4 below). Most groups formed in phases, with a few years elapsing between the date of formation and the launch of the certification/recognition program.

Among the state-run programs, those in Massachusetts and Connecticut were established by legislation, whereas New York's initiative originated within the Department of Environmental Conservation's Office of Climate Change. State energy legislation in Minnesota set in motion a chain of reports, consultations and directives that lead to the formation of a public-private partnership among three state agencies and four non-profit organizations. In Wisconsin, members of a governor's task force successfully argued for the extension of the state's Green Tier Charter beyond its initial targets in business and industry to also reward communities whose environmental performance exceeded regulatory standards.

In other cases, the leading role was played by non-profit groups, notably municipal leagues, and through them, local government officials. By contrast, Green Cities California was the brainchild of a group of sustainability directors who met at a foundation-sponsored event and wanted to continue and strengthen their collaboration.

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[6] Note that the date of establishment refers to the commencement of the broad sustainability or energy/climate certification program. In several states, the certification program built on an a preceding program (e.g., NY's *Climate Smart Communities Pledge* (est. 2009) preceded the launch of the certification program by five years, and the initial phase of CT Clean Energy Communities (2002) as a renewable energy program predated the launch of the current program, which also incorporates energy efficiency, by eight years.

Who runs them? Governance

The state-run programs are governed directly by state agencies, with varying degrees of advisory input from stakeholder committees. Utilities manage the Connecticut program and advise and/or fund several other state and non-governmental sustainability programs. Policies of the programs run by 501(c)(3) non-profit organizations (FL, NJ) are set by their boards of directors. Such boards are generally comprised of representative or influential stakeholders, including state agencies and utilities. However, key operational responsibility and decisions rest with the staff. The public-private partnerships (MN, WI) are governed by Steering and/or Executive Committees that are co-directed by state and non-profit partners. The other groups also all have stakeholder committees, some with more authority, others more advisory, still others fairly inactive. In some cases, such as Sustainable Jersey, there is an extensive stakeholder process (20 issue-based task forces and an overarching certification standards committee) within which authority is vested for setting the standards and developing the best practices that comprise the certification. In other cases, the board or staff makes decisions more directly with ad hoc stakeholder input.

Accountability to local governments and communities is generally indirectly secured by their representation on stakeholder committees, as well as many informal channels for input and feedback (e.g., volunteer task forces). Sustainable Jersey's by-laws mandate one-third of the Board of Trustees must be municipal officials appointed by the state league of municipalities. Only Green Cities California is run directly by its members, the participating cities. A rotating subset of the city-members are represented by their sustainability directors on the Steering and Executive Committees that guide CGC's consensus-based decision-making process.

How are they funded and how big have they grown?

The state-run programs are funded through various mechanisms, with dedicated funds coming from the auction of pollution allowances by power plants (MA), utility ratepayers' fees (CT) or direct allocations (NY). With a budget second only to that of Massachusetts Green Communities ($12 million in FY 2014), Sustainable Jersey has outpaced its peers in fund-raising ($1.8 million in FY 2014), in part by successfully balancing the three important classes of funders: foundations, state government, and corporations (including publicly-owned utilities). The membership organizations exemplify a third funding model, with budgets supplied by membership fees in part (CA), or in total (FL).

For purposes of comparison among types, programs are classified into small, medium and large categories (Table 4).[7] While government programs tend to be larger and non-profits smaller, within each program type budget size varies across the range. Given the assumptions inherent in making direct budget comparisons, the amount of staff time dedicated to the programs may be a better point of contrast. A striking finding here is that, with the exception of the state government programs and Sustainable Jersey, the others function with a very lean core staff of no more than two 'full time equivalents' (FTE).[8] The number of participating local governments is the remaining feature incorporated into this categorization of program size. Other than the tendency of state-run programs to be larger, there is no clear correlation evident between organizational type and scale.

[7] Table 5 displays the actual values for the three size-related categories: budget, number of staff and number of participating communities.

[8] The core staff directing the program are augmented by field staff under allied state-funded programs in New York and Minnesota.

Table 4. Relative Size

Type	Age	$	Staff	#	Overall
Government:					
MA	E	L	L	L	L
NY	N	M	M	M	M
CT	E	L	L	L	L
Public-Private:					
WI	N	S	S	S	S
MN	E	M	S	M	M
Member:					
CA	E	M	S	S	S
FL	E	M	S	M	M
NGO/University:					
MI	E	S	S	S	S
NJ	E	L	L	L	L
MD	N	M	S	M	M

KEY:
N = new, up to 5 years old; E= established >=5 years; S = small; M = medium; L = large
# = number of municipalities & counties participating at entry level and above

How do they work? Program structure and mechanics

Entry Requirements

The first step for a municipality to enroll in eleven[9] of the twelve state sustainability programs is for a suitable authority to signal intent to engage in the program by signing a sustainability pledge, passing a governing body resolution, or adopting a sustainability plan. Ten programs then further specify mandatory "actions," which in about half the cases include the establishment of a community "green team" (or sustainability team) of volunteers, local officials and staff tasked with leading its implementation.

In the singular case of Green Cities California (GCC), applications are generally made by invitation and approval is by consensus of existing members. In all programs other than GCC and New York's Climate Smart Communities,[10] registration (and other) forms are submitted through a web-based interface.

Actions, Points and Levels

Every program entails a menu of best practices, or "actions," that are designed for local implementation to improve sustainability. Here again GCC is unique: the list of "leading policies and practices" on their website is generated by the participating cities, illustrating their own experience and supplemented by examples and resources they and staff have selected from other progressive cities. This distinction reflects the fact that it is not aiming to build its own membership, rather it seeks to reach a much broader audience "to accelerate the adoption of innovative [sustainability] practices" in cities worldwide. To serve this external mission while promoting mutual support and networking among members, GCC feels it is not advisable to expand its membership rapidly. Since growth is not an objective, its size should not be compared with the other programs.

[9] Only Florida's certification makes the 'sustainability pledge' step optional; however, it does earn points.
[10] A web portal for processing applications to become a certified Climate Smart Community is under development in New York.

In every other case, program staff and statewide task forces or advisory committees work together to identify both core and cutting-edge sustainability practices for inclusion in a menu of actions. These actions serve as guidance for municipalities within the state on how to advance sustainability goals and thereby qualify for certification or recognition. In three-quarters of the states, points are assigned to each action, and certification or recognition is largely based on accrual of point totals. Within this basic schema, a great deal of variation flourishes.

The form and complexity of program structure as well as the number, complexity and difficulty of the actions themselves differ among the twelve cases. The total number of actions ranges from 5 to 241. At the low end of the range, the five steps, or "criteria," required for designation as a Massachusetts Green Community include such substantial undertakings as promulgating a requirement that all new construction within the municipality "minimize life-cycle costs." In other state programs, similar objectives are broken down into progressive, more bite-sized pieces, each of which garners points. The large number of sub-options provided for Florida Green Building Council (FGBC)'s Green Local Government certification result in the high grand total of 241 actions.

In addition to GCC, there are three other programs that currently offer only one level of recognition or certification. The other programs differentiate levels of accomplishment (beyond registration) typically as bronze, silver and gold, with two adding a platinum level on top. In addition to accruing a minimum number of points set for each level, several programs further specify that actions be distributed among a number of content categories and that specific "priority actions" be completed within each.

Uniformity vs. flexibility: community type

Every state program is faced with similar challenges: How to be sufficiently accessible to attract maximum participation while at the same time maintaining rigorous standards with real sustainability impact? How to attract and accommodate communities facing different circumstances and endowed with different resources and capacities (rural vs. suburban vs. urban; rich tax-base vs. tax-poor; small villages with two part-time employees vs. large cities with dedicated sustainability staff)? Each program attempts to meet these challenges in a different way. Solutions fall along a continuum from: mandatory and uniform, with quantitative standards and data-reporting requirements (MA), to multiple options with standards tailored to community type and narrative reporting (WI).

At the uniform end of the spectrum, communities aspiring to be designated a Massachusetts Green Community must prove they meet the same five criteria. Among them, "A municipality must establish an energy use baseline inventory for all municipal buildings … vehicles, and street and traffic lighting. A municipality must also adopt a comprehensive five-year Energy Reduction Plan designed to reduce that baseline by 20 percent after … five years." All must submit comprehensive electricity and natural gas usage data either by manual entry into the provided spreadsheet or by using customized, online tracking software that uploads data provided directly by the utilities. A similar energy benchmarking action, deploying instead the EPA's Portfolio Manager tool, is mandatory in Connecticut and optional in several other states.

At the flexible end of the spectrum, the director described a key distinction of Wisconsin's Green Tier Legacy Community Program: "We take each community as long as they're making progress. It doesn't matter where you are, as long as you're making continuous improvement." They provide a "convenience checklist" of strategy options rather than prescriptive actions. Subject to program input, communities are allowed to determine their own priorities, strategies and metrics. They present required reports on their progress in implementing these strategies and moving towards chosen benchmarks at quarterly Steering Committee meetings and post them on their municipal websites annually.

Other programs land somewhere in the middle of the mandatory/uniform to optional/flexible range. FGBC awards levels of certification based on percentages of "maximum applicable points" as ascribed by the municipality relative to its own goals and conditions. Rather than allow for a self-determined, flexible continuum of performance, several other programs define specific alternatives appropriate to community type and ambition. Minnesota GreenStep provides an additional layer of complexity and

flexibility to its 170 actions by awarding for each one, two or three stars, reflecting the degree of challenge entailed and sustainability impact thus expected. GreenStep further differentiates expectations by setting variable standards for each action depending on into which of three population-based categories the applicant falls. Michigan Green Communities compares point totals among participating municipalities of similar community type and size in assigning levels of certification.

Recognizing the central importance of innovation and nimbleness in the pursuit of sustainability, even the more prescriptive programs provide points for innovative projects within or across categories.

Evidence: documentation, verification and accessibility

The twelve state-level sustainability programs also diverge with respect to:

- the level and manner of documentation required,
- the intensity or rigor of its review, and
- its accessibility by the public.

The energy-focused, state government-run programs operate in a domain for which quantitative data are highly relevant and generally available. As mentioned above, the three governmental as well as a several other programs require municipalities to track comprehensive data on energy usage using the EPA Portfolio Manager or equivalent. These data are consequently uniform, complete and essentially verified by the utilities. As such, they do not require additional review.

Sustainability actions that can yield homogeneous data measured in uniform units (e.g., kWh) are in the minority. For customized, localized actions and data, the Florida Green Building Council may provide the most thorough review. To apply for certification as a FGBC Green Local Government, municipalities pay a fee. With these monies, the FGBC hires an independent third-party professional consultant who is responsible for verifying documentation and making the certification assessment. In order to make maximal use of scarce hours for both community members and reviewers, labor-saving approaches are at a premium. Go Green Virginia, among other state programs, leverages other extant certification schemes, such as Tree City USA, an approach that may also enhance credibility.

Different programs have come up with additional solutions to the constraints on rigorous verification or evaluation of applications posed by the very limited staff time to conduct reviews. Sustainable Jersey extends its dedicated staff effort by drawing on volunteer time from its qualified task force members from State agencies and professional organizations. The staff member who almost single-handedly reviews all submissions to Minnesota GreenSteps reports he is now able to spend only "one-to-two minutes" reviewing the documentation submitted for each action. However, GreenSteps calls itself a "recognition" rather than "certification" program partly for the reason they do not want to imply that actions have actually been ground-truthed. Applications to Sustainable Pennsylvania consist of Yes/No answers to a checklist of questions backed by hyperlinks to a portion of the municipal website that must display the supporting details for each action.[11] Staff check the completeness of the application, verifying that the required links and documentation are provided. Accuracy of content is ensured by virtue of the fact that certification documentation goes live online, and then can be viewed and verified, or challenged, by any member of the public and thus municipalities have put their credibility on the line. Thus, transparency becomes an important element relied upon to supply rigor and legitimacy.

By basing their assessments on municipal self-reporting of actions completed, verification in the Michigan, Virginia and Wisconsin programs depends to an even greater degree on transparency and municipalities' integrity and desire to avoid reputational risk. As a co-director of Wisconsin's Green Tier Legacy Communities explained, they depend on "peer pressure" to encourage the mayors to present and post accomplishment reports on-time; for them, "enforcement is based on relationships" and "positive, rather than negative, reinforcement."

[11] Points are assigned for each criterion in the Sustainable Pittsburgh certification checklist; number of actions verified together with points accrued determines level of verification.

The three elements–documentation quality, reliability, and accessibility–are thus seen to be interrelated. Sustainable Jersey and Sustainable Maryland entail possibly the most intensive requirements across all three of these domains. In those programs, specified forms of documentation must be provided in digital format and uploaded for each action. When a municipality applies for certification, or re-certification,[12] this documentation is reviewed by staff or task force members. Applicants receive direct personal support and mentoring over an extended period, as well as the opportunity to provide additional documentation in subsequent certification submission rounds within one application cycle. This level of scrutiny and support is viewed as a core program element that requires significant staff resources to adequately mentor certifying communities.

Once applications to Sustainable Jersey or Maryland are approved, the documentation goes live online. This means that any interested party can go to the website, view an interactive map (see below), click on one of the icons marking every registered or certified community, and view not only which completed actions constitute the basis for its current level of certification, but also the actual documentation that the municipality supplied as evidence for that action.

This comprehensive and transparent approach was made possible by a substantial investment in professional web-design and on-going support. The appealing and user-friendly website with its well-developed "back end" for uploading and displaying documentation can rather easily be adapted for use by other programs. On the basis of a memorandum of understanding with Sustainable Jersey, Sustainable Maryland has acquired the Sustainable Jersey website programming, retaining a similar look and functionality but substituting its own categories, actions, points and other content.

Image 1. Sustainable Jersey webpage (http://www.sustainablejersey.com/actions-certification/participating-communities/)

[12] Re-certification is required every three years. Certain actions 'expire' and thus require additional, documented effort in order for the relevant points to remain valid.

The web-based Connecticut Clean Energy Communities dashboard is also exemplary in demonstrating results, including an interactive map linking to "town data" for each participant, detailing points earned by category, grants awarded, contact information and a brief narrative. The FGBC site displays a list of certified green local governments with details of their qualifications and a searchable database of specific projects undertaken by each government. The Minnesota GreenSteps Cities site provides the most comprehensive program-wide statistics (e.g., participation level and status by community type, cumulative numbers of actions completed under each 'best practice' category).

For all twelve programs, the use of publicly accessible internet platforms to post information about the sustainability-enhancing/actions taken by municipalities is more than a means of verification. It also serves as a movement-building source of ideas, models, inspiration, publicity and stimulus for virtuous competition among municipalities, green teams and the greater public.

How do they aid and inspire? Resources and incentives

More than certification…

There are three major common elements to the state-local voluntary standards approach designed to spur the adoption of sustainable policies and practices by local governments and communities. The first, as explained in the preceding section, is to lay out a clear roadmap in the form of standards and a structured set of incremental actions to attain them. Second, programs provide resources to aid with implementing those actions; finally, programs provide the incentives and corollary benefits that inspire the effort. This section describes the resources and incentives commonly provided by the twelve programs in greater detail.

1) Informational Resources, Tools and Training

Every program features a website that it uses as a platform for explicating the program structure, listing eligible sustainability actions, and providing instructions. In addition, program websites provide content and links to external resources containing valuable models and information on how to implement actions. For example, Sustainable Jersey's well-developed website provides for each certification action a "tool kit" containing "information about who should be involved, project costs and resource needs, why it is important and what to do to get the action done."

Many websites also serve as a platform where communities post documentation of their own sustainability efforts, often with local contact information, to facilitate learning and replication. As local efforts often include innovations that expand upon the existing guidelines, this helps programs to grow and evolve.

Several programs also provide specialized spreadsheets for keeping track of the complex elements of certification as well as access to other online tools, such as a customized energy portfolio manager (MA).

In addition, many programs offer participants training sessions, such as webinars on how to navigate the program itself (e.g., "Countdown to Certification: Make Sure You're Ready") or how to implement particular actions ("Benchmarking Energy and Water Use to Reduce Costs").

2) Peer-to-peer exchange

Most programs provide opportunities for peer–to-peer networking and learning through one or more face-to-face events per year. While Green Cities California holds semi-annual member retreats, almost all the other programs bring local officials and green team members together at an annual awards ceremony. Additionally, various seminars, workshops and summits offer opportunities for participant interaction. Sustainable Jersey sponsors 'regional hubs' (six and counting) that offer peer mentoring,

regular events featuring guest speakers and socializing, and an online communication platform to foster collaboration between events.

In addition, statewide task forces and steering/advisory committees stimulate interactions among experts from different sectors, municipal staff and community volunteers. Newsletters and social media also provide means for keeping participants abreast of program developments and the achievements of their peers.

3) Technical assistance and mentoring

All programs provide some degree of technical assistance and a number to call, although those with larger staffs and budgets are better positioned to conduct outreach and respond. Massachusetts Green Communities employs four full-time Regional Coordinators who work full time with municipalities who request assistance. With the largest staff of the non-state programs, Sustainable Jersey is able to provide intensive mentoring for certification applicants, including fielding queries and up to three rounds of revision if the first attempt is not successful.

4) Coordination with and among government agencies

A special type of technical assistance is gained by the public-private programs through facilitated access to state agency staff. The Wisconsin program has identified a "single point of contact" within each relevant regulatory agency that serves as the communities' internal advocate. As explained by one respondent, Minnesota's Clean Energy Resource Teams already had over a decade of experience "connecting community leaders with resources to get Clean Energy projects done" before they were tasked with providing outreach to GreenStep Cities as well.

Even state-run municipal sustainability programs benefit from coordination with other state programs and agencies. New York's Climate Smart Communities (CSC) is led by one state agency, but jointly sponsored by a total of six state agencies. To varying degrees, they provide expertise, resources and integration of CSC into their respective initiatives. For example, increasing the population living in CSCs is an objective of the Department of Health's Prevention Agenda. Although there is no direct funding earmarked for Climate Smart Communities, contractors funded under New York's energy authority[13] have provided crucial field assistance to municipalities.[14]

Some NGO/university-type state-local sustainability programs manage to achieve a degree of integration with state government for mutual benefit. For example, Sustainable Jersey actions have been adopted by various state government agencies and incorporated into their technical assistance and grant-making programs. Green Cities California "works closely and directly with state agencies … to advance consensus positions" on state policy development.

In non-monetary terms, leaders from the Minnesota GreenSteps remarked how their close partnership with state agencies had "contributed to the credibility of the program." The presence of higher-level state agency employees as ex-officio members of Steering and Advisory committees has also conferred credibility on non-profit/university-type programs. Mid-level state employees serve on task forces and other committees; in that capacity and as points of access to their agencies they contribute their technical expertise and knowledge of state programs and regulations.

Finally, the benefits of cross-sectoral communication are felt at the level of municipal government as well. A third party review found that "GreenStep cities clearly value how the GreenStep program helps create and reinforce a cross-departmental culture of sustainability." A FGBC staffer explained how their program also fosters collaboration,

> Part of the process for determining qualification with the standard is to look across all local government departments to determine what is currently being done, what the needs are, and what remains to be done in order to qualify. This process inherently requires extensive

[13] New York State Energy Research and Development Authority

[14] E.g., these contractors, called CSC Regional Coordinators, provided guidance in the completion of greenhouse gas inventories, climate action plans, and vulnerability assessments.

communication between departments, eventually identifying areas of potential cooperation to better achieve common goals.

5) Access To Resources From Multiple Sectors

How do programs first, identify and then, provide access to the most appropriate resources? A Sustainable Jersey co-director describes their approach,

> One of our program's real strengths is that standards and best practices are developed by… task forces with robust representation from government, the private sector and academia. By having the right people on the task forces agreeing on the standards and best practices, we can help get resources to the communities. … They have services they can offer local businesses and governments to get the actions done.

6) Incentives: Financial Resources

Participation in state-level sustainability certification or recognition programs attracts/garners the financial resources needed to implement sustainability-enhancing actions in one of several ways:

- **Direct government funding**: In the state-run programs of Massachusetts and Connecticut, certification directly qualifies municipalities for grants. In Massachusetts, participants who meet the criteria and are designated "Green Communities" receive an automatic award. One hundred points earned in the Connecticut program can be redeemed for Bright Idea Grants that can be used toward energy-saving projects in the community.

- **Direct competitive grants:** Once they qualify as Massachusetts Green Communities, participants are eligible to apply for grants for energy efficiency and renewable energy projects. More than $28 million from direct and competitive Green Community grants has been disbursed this far. Among the non-profit groups, Sustainable Jersey leads in munificence. In 2014, it granted a little over half a million dollars in competitive awards to registered communities that it had raised from foundations and public utilities. Green Cities California collaborates with member cities on grant applications to fund joint proposals by four or more cities to undertake collective work, such as a current project on whole-building energy benchmarking and data access.

- **Preferential access to state funding:** New York's program does not have funds to distribute directly, but status as a registered 'Climate Smart Community' provides bonus points towards grants under the Cleaner, Greener Communities opportunity offered by the governor's office. Moreover, several CSC certification actions are eligible for funding under the latter program, a model that has been extended to several non-state programs as well. Green Tier communities in Wisconsin get points towards state awards in brownfield clean-up, tourism development and environmental stewardship.

7) Incentives: Recognition

Every non-profit/university-type program awards and celebrates its certification or recognition of sustainability accomplishments at annual conferences of its state municipal league (or regional partner), typically a very high-profile occasion. A number of programs issue special awards on that occasion to top-ranked municipalities, or "most innovative," and the like. Press releases and social media campaigns are coordinated around this and other newsworthy events and developments in a number of programs. Recognition of "local heroes" on the Sustainability Jersey website helps keep the base energised.

Every sustainability program of all types lists its municipal participants and their status (registered, certification level, etc.) prominently on its website and other materials, while at the same time authorizing them to advertise such status on their own municipal websites, materials and signage. This conveys "bragging rights" to local officials and citizens, while at the same time "building the brand" that enhances the value and stature of the certification/recognition statewide and beyond.

Over and above specific incentives, many local governments, green teams and members of the public are inspired by participating in making positive change in their hometown while at the same time feeling part of a larger movement that has the potential to make impact at scale.

Participation and Impact

Participation, rate of growth and type

Which programs are achieving high levels of participation or rapid rates of expansion? Does either size or growth appear to be correlated with any other set of program characteristics that might point to key factors in promoting participation? In attempting to answer this question, we are faced with the reality that the many unique features of each case make simple 'apples-to-apples' comparisons impossible. Nonetheless, there are lessons to be learned by looking at participation data from multiple angles. While neither large size nor rapid growth rate themselves indicate that program participation is producing more sustainable actions or leading to more sustainable outcomes, such evidence would suggest a higher level of local buy-in and possibly external support. As necessary, but not sufficient conditions for making an impact at scale, size and growth rate are thus worthy of attention.

Figures 1-4 display participation levels in four complimentary ways. Figure 1 presents the gross number of municipalities that are enrolled in each program at two levels: "registration," or entry-level, and all higher levels, corresponding to different levels of certification, or recognition, as specified by the particular program (bronze, silver, and the like). As shown, there are three programs that only involve one level (MA, WI, CA). The California program sets the bar very high, only admitting exemplary models of urban sustainability. In Wisconsin the entry requirements are similar to those in all the other programs, consisting primarily of a pledge of intent on the part of local governments (municipalities or counties) to join the program and pursue sustainability goals.

Casual inspection reveals two major findings:

- As a class, governmental programs sustain the highest numbers of participants.
- There is no other clear correlation between organizational type and scale.

Sustainable Jersey presents as an outlier, with exceptionally high numbers of municipalities participating at any level. As discussed further below, given that Sustainable Jersey and the governmental programs are also the most well-resourced in terms of staff and ability to provide incentives to municipalities, it is reasonable to infer that dollars are more central to participation than organizational home. Among the NGO/university programs, Sustainable Jersey may also be the most closely integrated with state government.

It might appear that state-run programs are good at attracting registrants but not as successful at guiding them through to certification. To some degree this appears to be true in New York, where program leaders concede that many communities are availing of program services but haven't bothered to apply because "it's a lot of work and there's no money available." In addition, certification in Connecticut and completion of the Massachusetts program[15] require a high level of performance in reduced energy consumption and renewable energy generation, so it is not surprising those numbers are relatively low.

Participation as a percentage of the total number of municipalities (Fig. 2) reinforces the above findings. At the same time it is skewed by variation in the total number of municipalities in the state, highlighting the performance of states with relatively few municipalities (CT, MA), and diminishing the apparent performance of those states with very high numbers of municipalities, many of them very small[16] (PA, WI, NY, MI).

[15] Currently, the seven communities who have achieved the MGC-targeted level of energy efficiency and renewables do not receive a special form of certification or reward, although this is under consideration.

[16] A state with a large number of municipalities, many of which are very small, is likely to include a high percentage of communities that lack the capacity (funds and staff) to participate in voluntary programs. Thus, it does not give them an

Figure 1

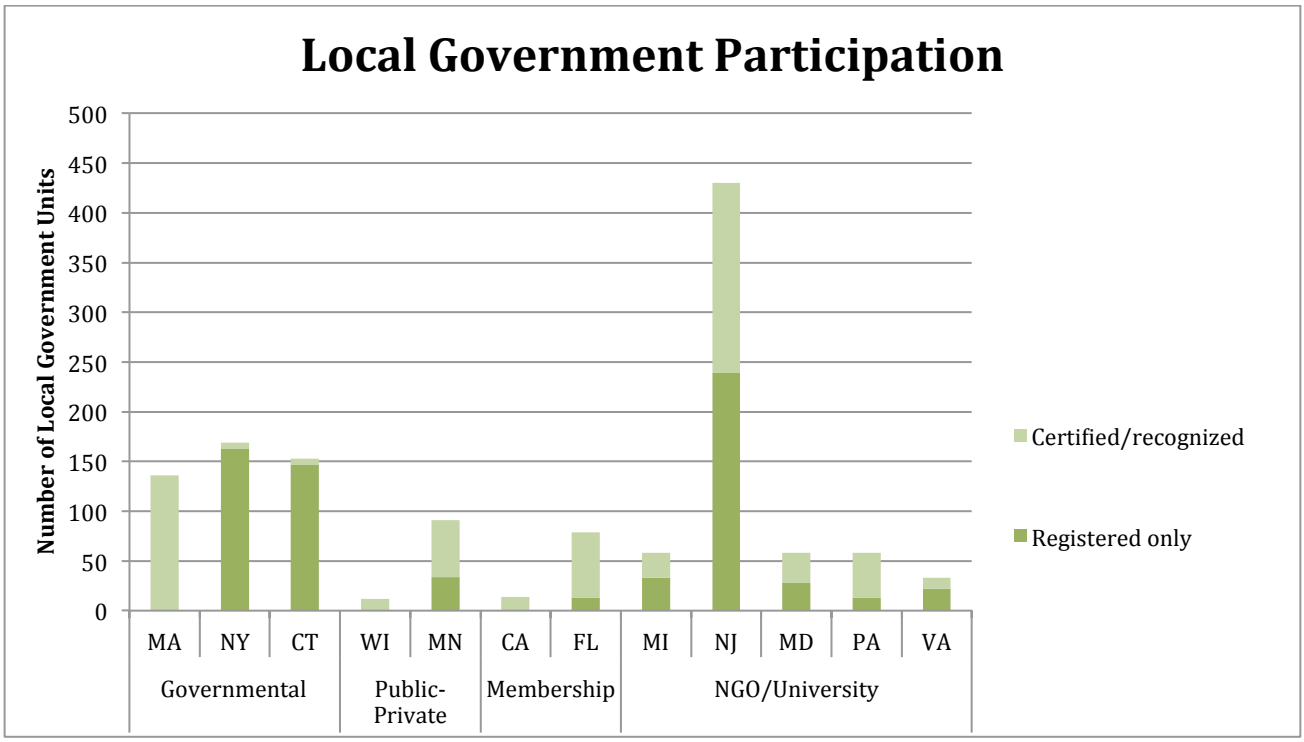
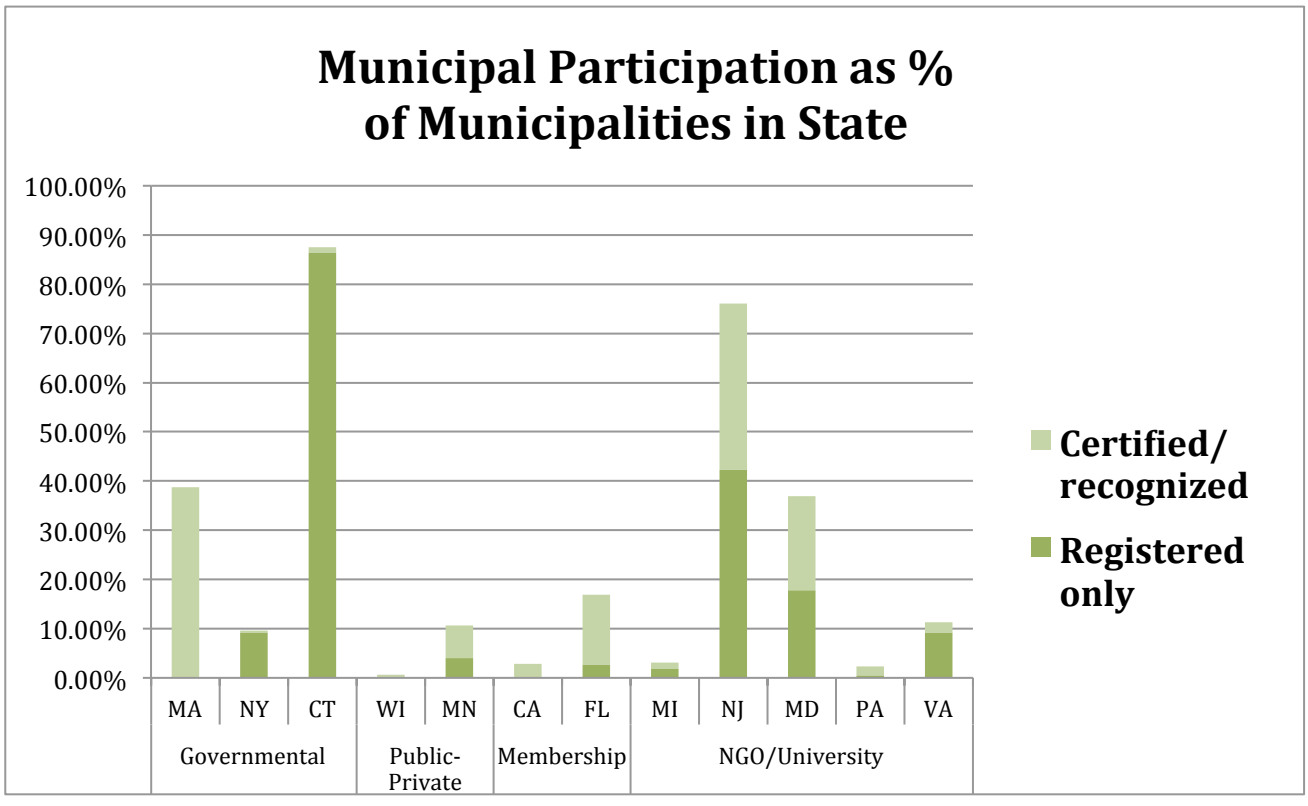


Figure 2



edge in absolute numbers of participants (Fig. 1) and, as noted this diminishes their apparent performance on a percentage basis (Fig 2).

Figure 3

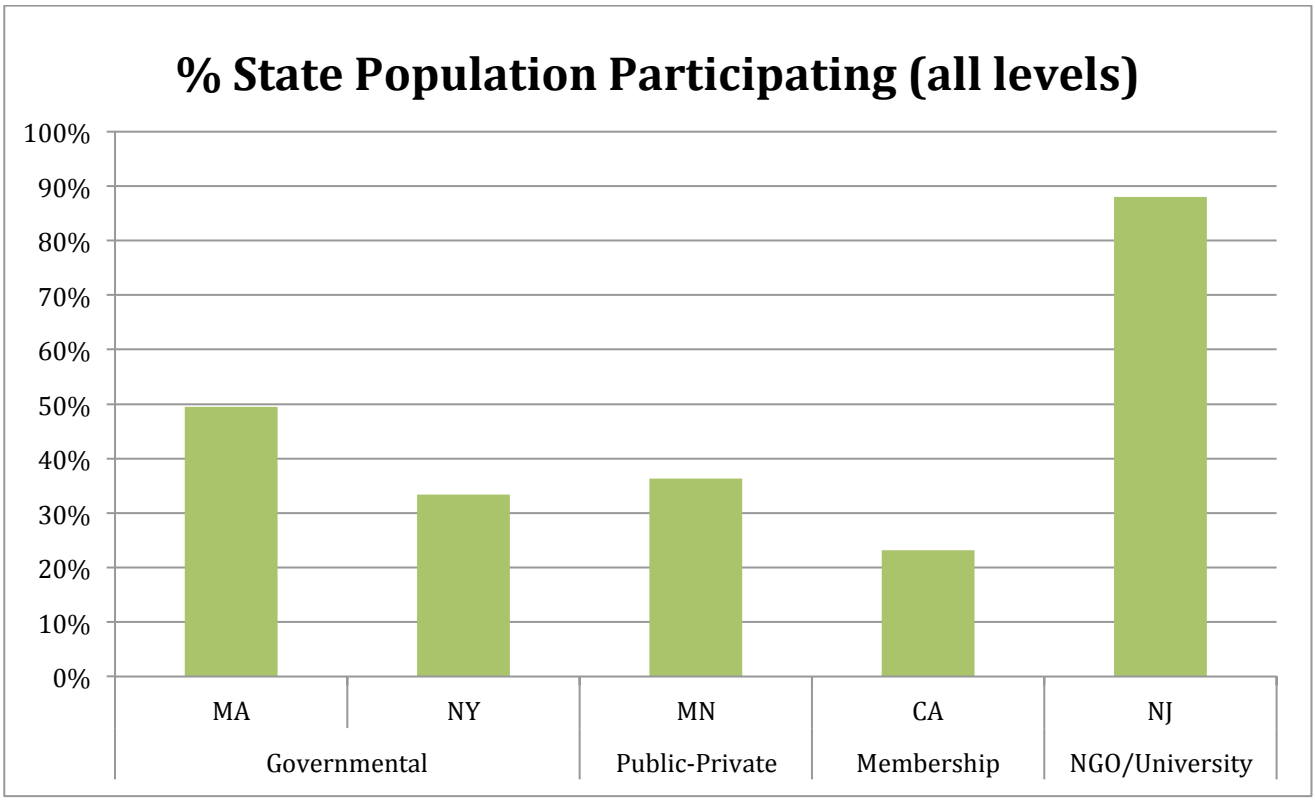
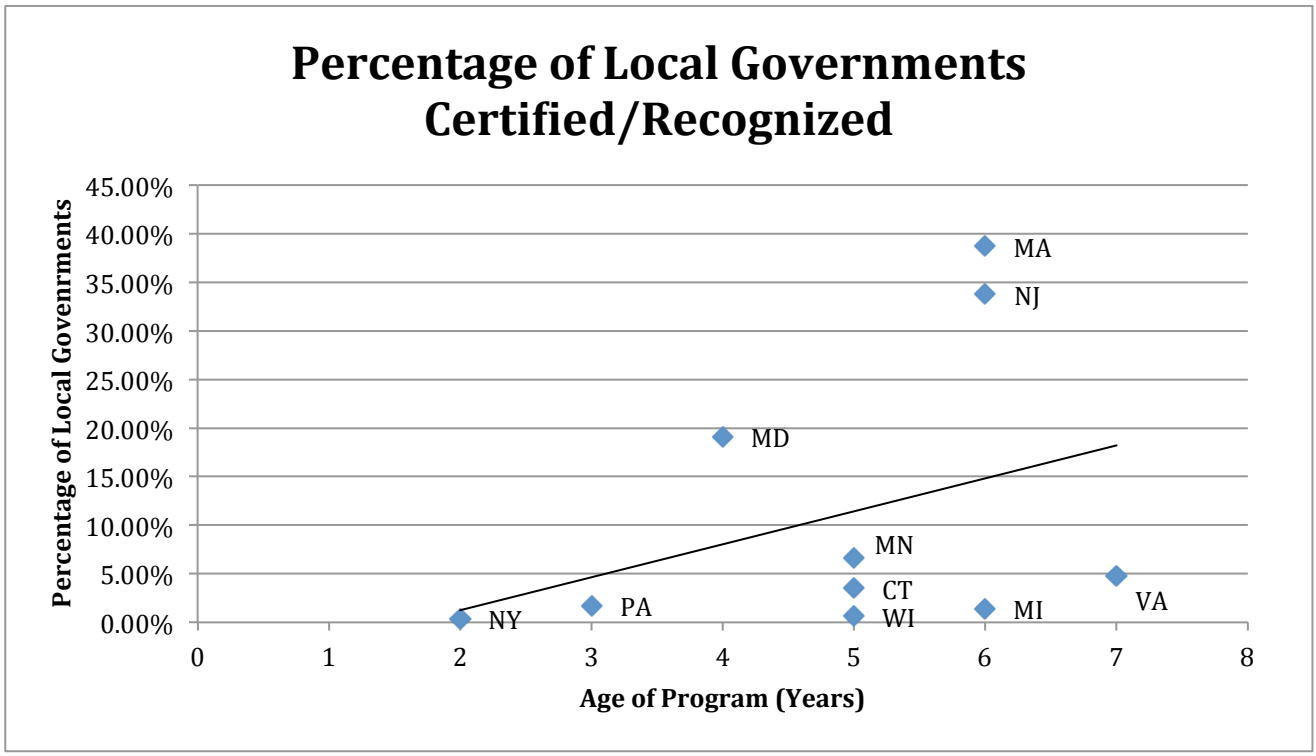


Figure 4

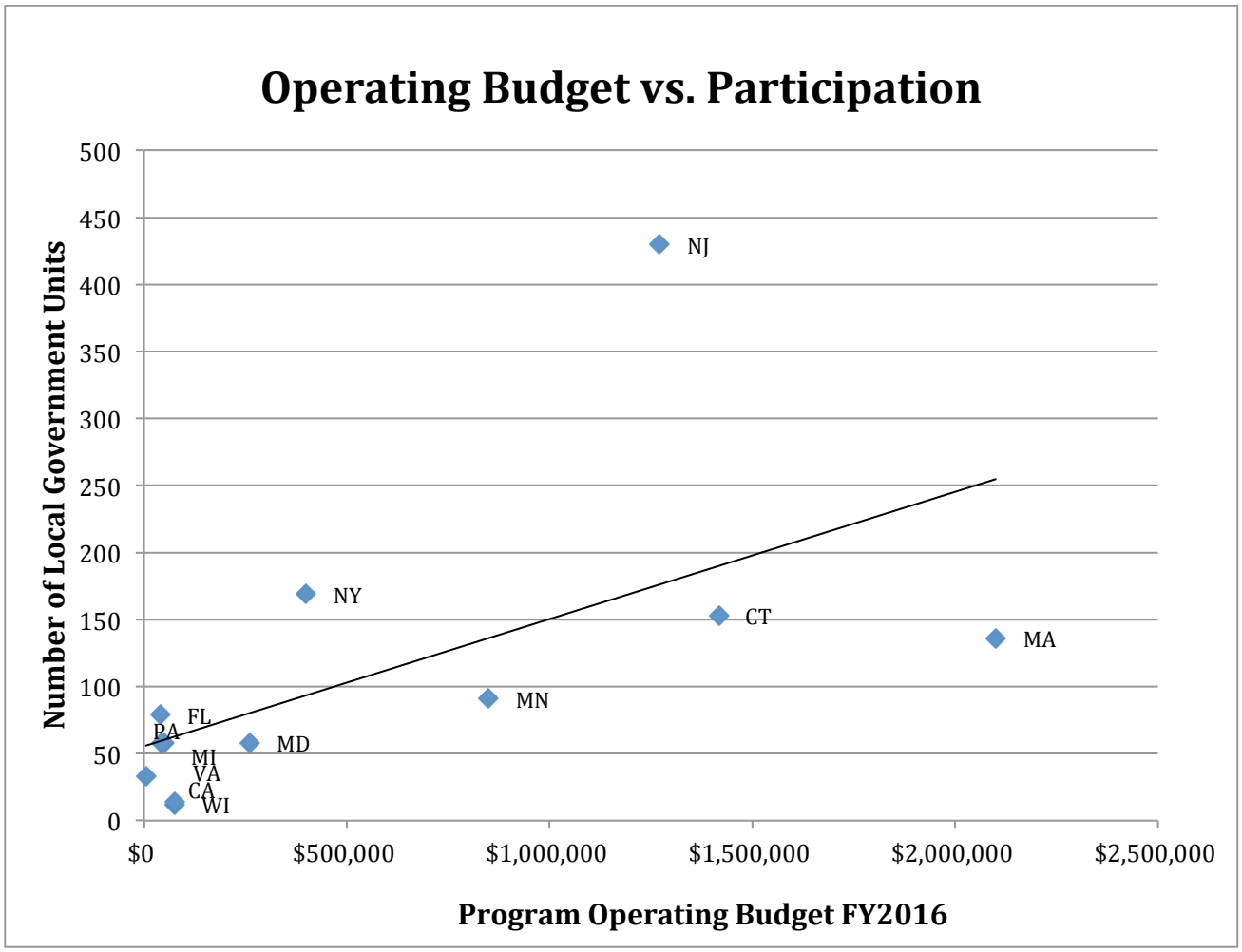


Only five states have tracked the total population residing in participating municipalities. The results shown in Figure 3 underscore the high level of penetration of Sustainable Jersey. In addition, more significant relative and absolute numbers of residents of the populous states of New York and California are seen to be involved in those state-local sustainability programs.

Figure 4 provides a way of comparing growth rates among programs of different ages (membership-based programs excepted). All of the programs located above the curve can be considered the fast-growers. From this perspective, the government-program advantage vanishes, although one such program (MA) comes out on top. Sustainable Jersey displays strong growth as does Sustainable Maryland, the programs with the two most similar structure and features. Yet, the NGO/University class also includes a couple of the older programs that appear to have plateaued (MI, VA).

- Overall, the rate of growth varies across type and age, with relatively new (<5 year old) programs as likely to have reached a large scale as the older ones.

Figure 5



Other Determinants of Participation

As displayed in Figure 5, participation rises with the operating budget alone. When direct awards, or 'pass-through grants,' to communities are included the funding effect is even more pronounced (see Table 5). While it is perhaps unsurprising that programs which have money to hand out convince more municipalities to participate, it is also notable that operating funds to pay salaries and provide services also have a strong effect.

Larger staff size, measured in "full time equivalents," also supports greater participation and uptake. This finding is consistent with the observations of program staff that strong participation in state-local sustainability programs is enabled by such labor-intensive efforts as direct mentoring of applicants, broad community outreach and education, intensive collaboration with volunteer stakeholder committees, and active fundraising.

From the simple correlation between large budgets and high levels of participation it is not possible to determine which came first. Do the well-funded (and thus well-staffed programs) succeed in attracting participants primarily because they are well-funded? Does growth in participation alone attract dollars? Or, do programs that are strong in multiple ways build participation and a funding base in a mutually reinforcing pattern? All of the above are likely explanatory, but in what proportion is unknown.

Table 5. Program Budgets, Staffing and Participation (all levels)

Program Type	State	Total Budget	Direct Awards	Participation	Staff (FTE)
Governmental	MA	$12,000,000	$ 9,900,000	High	10
	NY	$400,000	N/A	Low	8 (1.5 agency + 6.5 contractors)
	CT	$1,537,000	$120,000	High	9.5
Public-Private	WI	$75,000	N/A	Low	0.5
	MN	$850,000	N/A	Med	1.5 (not including field)
Membership	CA	$149,000	$74,000	NA	1
	FL	$40,000	N/A	Med	2
NGO/ University	MI	$50,000	N/A	Low	1
	NJ	$1,800,000	$529,000	High	11.5
	MD	$400,000	N/A	Med	2
	PA	$42,000	N/A	Low	1.5
	VA	$5,000	N/A	Med	0.2

In sum, higher budgets, particularly direct awards to communities, and larger staff sizes are associated with higher levels of participation. Governmental programs tend to have larger budgets, suggesting that organizational type is less important than resources in determining participation.

Demonstrating Impact

Outputs

All programs except California Green Cities require participating municipalities to report on their 'outputs' in the form of program actions completed (e.g., number of energy audits conducted, green/job/health fairs held, specified ordinances passed). However, these data in themselves do not amount to evidence of improved sustainability, as these remarks from the Sustainable Jersey co-directors aptly illustrate,

> We count widgets. We track community success in completing specific actions and their success rate in achieving certification and at what level. We can tell you on an annual basis how many put up solar panels, how many completed energy audits, etc. Meeting our standards shows a level of activity and effort. But in terms of outcomes, people would say well, what was

accomplished? You passed the air quality ordinance, yes. Do we track the air quality? No…For most of our actions, we don't have such data. There are a handful where the standard correlates to a specific level of performance, like lowering GHG emissions, but these are a minority, the exception not the rule.

Outcomes

If we think of *outputs* as "widgets", we can speak of *outcomes* as measurable change in a sustainability metric that occurred as a result of those outputs. Seven programs track consistent outcome metrics. These are concentrated in the energy domain and to a lesser degree, other areas that lend themselves to uniform measurement, such as waste and water; for example, kilowatt-hours used, kilowatt-hours generated from renewable energy sources, tons and percentage of municipal waste recycled. With the collection of baseline figures plus a few assumptions and calculations, many outcomes can be expressed as cost savings or reductions in greenhouse gas emissions.

Program leaders and municipal officials persistently express concern about the disincentive effects resulting from the burden data measurement and reporting place on municipal staff. To compensate, New York Climate Smart Communities offers bonus points for "documenting and reporting achievements in performance." Minnesota GreenStep is providing another level of incentive and guidance by introducing a whole new level of certification, known as "Step 4," that will recognize communities for going through the effort of collecting baseline and on-going performance data across all sustainability categories.

So far, only two state-run programs (MA and CT) report annual statewide total figures on collective energy, cost saving, and greenhouse gas reduction outcomes associated with their municipal-level sustainability programs. As a result it is not possible to come to any firm conclusions about sustainability outcomes resulting from the efforts of the twelve state-local voluntary standards programs to date. This also reinforces the rationale for not reaching conclusions about which programs are more effective than the others.

Impact

Are these state-local voluntary sustainability standards programs making a difference? Are they making a collective impact in advancing their common sustainability goals? This is what the proponents and supporters of these initiatives want to know … and yet a definitive answer remains elusive.
Even the most rigorous and comprehensive data monitoring undertaken proposed so far would not establish what would have happened in the absence of these programs. It is not possible to demonstrate, for example, that a given municipality would not have put up solar panels or switched over to fuel-efficient vehicles were it not vying for a silver level of sustainability certification. Demonstrating that linkage at higher scales is methodologically challenging, requiring both a lot of data and a hypothesis, based on a theory of change. However, a number of programs are actively responding to the challenge of defining and tracking change in important sustainability metrics, and a few are grappling with impact.

Minnesota GreenSteps has taken decisive steps in this direction with the introduction of its Step 4 to establish baselines for key local sustainability metrics. Future plans call for a top-level of certification–Step 5–that will be awarded to municipalities that can demonstrate consistent improvement in these metrics. Their theory of change posits that once roughly fifteen percent of municipalities have taken such action, or more fundamentally, have adopted "sustainability as a norm," the condition will have reached a "tipping point" after which it begins to spread on its own momentum.[17] In the meantime, they are confident that their program is making a difference because it is built on actions that already have "some evidence base for impact."

Sustainable Jersey has embarked on an effort to define sustainability along multiple dimensions and to identify corresponding state-level indicators and data for annual tracking and reporting. Their intention

[17] Based on diffusion of innovations theory dating back to the seminal work of Everett Rogers (1962) *Diffusion of Innovations.*

is to define a new, performance-based gold level of sustainability by working out fair and feasible levels of municipal contribution to "moving the needle" to meet state-level targets.

Challenges and needs

During interviews, respondents were each asked to identify the primary needs and challenges facing their programs. In rough order of frequency, interview respondents mentioned the following major obstacles and unfilled needs challenging the efforts of their programs to strengthen, expand and accelerate impact/municipal innovation and adoption of sustainability practices.

1) funding and staffing

Insufficient funding to support (a) grants to communities and (b) adequate staffing, programming and outreach was most commonly raised as the single biggest constraint faced by the state-level municipal sustainability programs in the study. Almost all, if not all, would echo the comment of the respondent from Michigan Green Communities. "Funding and staffing are holding us back. We haven't met demand yet. Communities are hungry for this." New York's Climate Smart Communities staff cites specifically their inability to offer direct grants as incentives to communities as holding back municipal participation. Even Massachusetts Green Communities, the most richly resourced program, is beginning to feel the consequences of its own success, bumping up against the statutory cap on the amount the state can disburse annually as direct grant awards.

Understaffing and competing demands for time are also constraints at the local level. In particular, the "cumbersome process for participants … to communicate consistently and pull together documentation," holds back participation in FGBC's Green Local Government certification. Speaking of the member representatives of Green Cities California, the director bemoaned the fact that, "Everyone is so busy that trying to take on collective projects is very difficult."

2) supporting uptake by numerous small and/or low-capacity communities

Small towns and low-income cities have limited staff, volunteers and expertise to support program engagement and success. In several states, many municipalities are so small that they are "just a stop sign" (PA) staffed with a "part-time supervisor and plow driver" (NY). Municipal sustainability programs would like to provide needed support to such communities on an individual basis, but they lack the capacity to meet this demand, particularly in the four states with more than 1500 municipalities total (NY, PA, WI, MI).

3) working with diverse community types

A related challenge concerns designing and supporting a program that is still rigorous, but accessible to municipalities of a wide range of types, sizes, resources and capacities. In addition, several states have or will extend their programs to incorporate counties, which have different structures, legal and administrative authorities, and scope for local influence. Respondents from Massachusetts and Florida discussed "weighting criteria" to make their programs both challenging and accessible to municipalities of varying population sizes.

4) lack of impact metrics and data

Respondents from a number of programs singled out the lack of common methods and metrics for demonstrating impact as a chief challenge. In many crucial dimensions of sustainability, indeed in most other than energy, there are few relevant metrics for which there are baselines and on-going data collection at the municipal (or even state) scale. In addition to guiding adaptive management and prioritizing sustainability efforts, such methods, metrics and data are needed to demonstrate impact to funders.

5) marketing program, expanding community participation

The theories of change underlying these state-local programs for catalyzing adoption of sustainability policies and practices call for rapid expansion to achieve impact at scale. Thus, the programs would like

to see the number of participating communities grow swiftly[18] and for those programs to advance steadily to higher levels of sustainability certification or recognition. New York Climate Smart Communities in particular is concerned about how to convince more of the municipalities that have already taken their pledge to "bother to apply for certification…" Many programs find a certain number of municipalities appear to be "stuck" at one level. Towards this end, GreenSteps lists "understanding what assistance communities need and how they can get it" as a chief need and objective.

6) managing growth

At the same time, the largest programs (MA and NJ) mentioned as a challenge "managing growth" in numbers of participants and, for Sustainable Jersey, in staff. For the latter it is a strain to consistently source the funding to offer grants that would grant the needed resources for eager municipalities to implement sustainability measures and qualify for certification. As mentioned above, there have been so many successful applications; they may soon exhaust their $10 million statutory cap on community energy grants.

7) lack of coordination among state agencies, locals

Several respondents called for better coordination among state agencies of different types, disciplinary silos and powerbases, in implementing and funding their program. In particular, the staff of New York's Climate Smart Communities (who work under the Department of Environmental Conservation) see potentially confusing overlaps, competition for resources, and many possibilities for synergies between its program, and, for example, the Cleaner, Greener Communities grant program and the state's Office of Storm Recovery.

Similarly, challenges in coordination at the local level were also noted. One respondent remarked,

> There are so many members of the community trying to do the same work – universities, recreation groups. This creates obstacles. There are so many different players, that the towns don't know who to go to.

8) negotiating politics

In Wisconsin, Anti-Agenda 21 (anti-government regulation) activists are trying to obstruct and discredit the program. Other programs have also dealt with opposition from this group. One respondent voiced a common wish to "avoid getting entangled in political debate." He noted the balancing act required to "keep our partners and funders happy, but maintain our independence and credibility.

Value and Roles of a National Network

The final question in the interviews conducted for this study prompted respondents to reflect what they perceive to be the value and potential functions of a national network of state level sustainability programs. Their ideas are summarized and grouped below in rough order of descending frequency of mention.

1) peer learning and networking

Opportunities for peer learning through sharing best practices and innovations was most popularly mentioned as a valued function of the proposed national network. Respondents would like to participate into a forum for "learning about what other states are doing" that would evolve into a support network. As one aptly put it,

> There is something I call *tribe-building*… I wonder who else can be in my tribe that can help me, who can I call if I have a problem or issue? Right now, we only loosely know of each other. To create camaraderie, a support network is a really good value.

2) educating funders and national policymakers; sharing resources

Potential network participants see value in banding together to get the attention of foundations and federal agencies and to educate them about the state-level municipal certification/recognition model

[18] California Green Communities does not aim for *rapid* growth. Progressive communities with advanced sustainability programs are encourage to join, yet wishes to remain a face-to-face network, which limits size.

and its accomplishments. Developing a shared voice would enable the network to provide input on policy matters. At the same time, the network and its members could use the access to national funders to raise funds for their programs individually and collectively. One suggested the idea of "resource pools…or synergies in coordinated staffing." Several people proposed the idea of raising funds for collective projects and shared technologies (see (4) below).

3) national standards and demonstrating collective impact

One respondent proposed that collaboration among the groups could usefully evolve into "informal standards of practice" in the municipal sustainability field and the emerging area of state-level municipal sustainability programs. Another suggested that states should agree on common national (or regional) metrics that could be downscaled to the municipal level or up-scaled to show impact. Numerous respondents noted "funders want to see impact."

This is a challenging direction that demands additional research and resources to do it right. These challenges are very similar across states and, moreover, the use of common methods and metrics would enable programs to determine their summative impact. One respondent envisioned a future in which "states could upload information to a dashboard instead of an individual website, and aggregate data and impact by state." All of these reasons were seen as very strong grounds for collaboration in this area as a matter of priority.

4) collaborative products

Research and developing tools for evaluating program impact were proposed as fruitful areas for collaboration and collective fundraising. One idea ventured was for states to be able to upload information to a 'dashboard' instead of an individual website, which would allow them to then aggregate data and impact by state, regionally or nationally.

5) regional level coordination

The potential value entailed in forming regional groupings within the national network to address the many sustainability challenges that cross state lines was also frequently mentioned. This could facilitate alignment of best practices within climatic zones and large river basins, opportunities to address regional-scale issues such as resilient power networks, "a friendly competition to reduce greenhouse gases," and the like.

6) developing new areas of practice

A number of sustainability programs are taking on resiliency issues, and it was suggested that programs could benefit from working on developing municipal standards, strategies, tools and metrics in this (and potential other) newer areas of practice.

7) visibility, shared voice: movement building

One respondent articulated a compelling argument for why coming together as a network would help raise the profile of municipal sustainability programs and thereby help catalyze the wider adoption of sustainability practices they promote.

> To build a movement, we need to build visibility. To spread the model, people need to see it in action… It's hard to explain exactly what we do. Seeing is believing

CONCLUSION

This study identified twelve collaborative statewide programs that recognize local governments for achieving voluntary sustainability-related standards. Four major types are defined: state government, public-private, membership and NGO/university-based. This report further characterizes these programs with respect to their focus, initiation, funding, governance, program structure, resources and incentives provided, rates of participation and growth, major challenges, and their perceptions of the potential value of coming together to form a national network. A few themes emerge from comparative analysis of these programs:

How these programs integrate with state government is a recurring theme in the programs. The three state-led programs are focused primarily on energy and their focus comes from agency or legislative mandates. They are also well-funded.

The other three types, shared public-private leadership, membership-based or NGO/University led, tend to have smaller budgets and a broader issue focus that comes from a more diverse stakeholder base.

Money Counts

Access to adequate funding for staff and the ability to offer or link municipalities to funding are the strongest determinants of the levels of early participation in the programs. State-led programs as a whole tend to have larger budgets and higher rates of entry-level participation.

Most of the non-state programs have small budgets relative to their ambitions and the size of their target populations. In some cases, where non-state programs have achieved close coordination with states and tapped into multiple sources, they have succeeded in raising substantial budgets and higher levels of municipal participation.

It's Not Just Money

Although state-based programs with high budgets garner high rates of initial participation, they are less successful in advancing communities toward certification or the equivalent. The NGO/University led programs tend to have higher proportions of their participating communities achieving recognition.

A hallmark of these state-level sustainability programs is that they not only set standards for local governments, they provide direct guidance and financial and other resources to support their achievement. Given this fact, substantiated by the findings of this report, it is unsurprising that all twelve programs put funding for operations and direct grants to local governments at the top of their list of challenges and needs. They also understand that while attaining high levels of participation is a necessary condition for achieving large-scale impact, in order to show that participation in their programs is in fact making the world more sustainable--and thereby make the strongest case for more funding and support--they will need to meet the challenge of demonstrating that impact. Thus, the participants in this study expressed a keen interest in networking to engage national partners, attract resources, and learn from each other how best to make (and measure) impact – one community at a time.

APPENDIX: STATE SUSTAINABILITY PROGRAM PROFILES

State	Program
CA	Green Cities California
CT	Clean Energy Communities
FL	Florida Green Building Coalition
MA	Massachusetts Green Communities
MD	Sustainable Maryland
MI	Michigan Green Communities
MN	Minnesota GreenStep Cities
NJ	Sustainable Jersey
NY	Climate Smart Communities
PA	Sustainable Pennsylvania
WI	Wisconsin Green Tier Legacy Communities
VA	Go Green Virginia

See Table 3 and following text for definitions of types.

See Table 4 for definition of size classes.

All data current as of October 2015. Meanwhile, the programs are continuously evolving, so that certain facts cited in this report are likely to be outdated soon.

Unless otherwise noted, participation numbers are for local government units, i.e., municipalities and, in some cases, counties.

% = number of municipalities only as % state total (counties excluded).

Numbers 'registered' include all such units that qualify at the entry-level and above. Numbers 'certified' include units that received any level of certification, or recognition above the entry level (and up).

FTE = Full-time equivalent staff (e.g., two half-time employees = 1 FTE)
All quotes from program websites (click on link or see Table 1 for url.)

Green Cities California

Type/Major Focus Membership; General sustainability

Size Small/Medium

Participation 14 cities (3% of total number; population 9 million)

Staff 1 FTE

Primary institution(s) managing program
Green Cities California

Other Managing Partners
The Local Government Commission serves as the fiscal agent. GCC serves as a regional network for the Urban Sustainability Directors Network.

Initiation
In 2007, a group of sustainability directors who had been meeting informally launched Green Cities California to formalize and strengthen their nascent network of progressive local governments enacting a sustainability agenda.

Mission/Goals/Scope
The network is dedicated to promoting and sharing innovative practices and policies for sustainability. While it provides members with opportunities for collaboration and other direct benefits, its aims are not limited to influencing or expanding the membership. Rather, GCC seeks to "accelerate the adoption of innovative policies and practices that further sustainability at the local, State, and national levels" by providing examples and resources on its website. These cover a broad range of topics, including: overall sustainability, climate change, economic prosperity, energy, green purchasing, health, transportation, urban ecosystems, water, and zero waste. In addition, GCC works closely with state agencies "to advance consensus positions" on relevant policy issues.

Program Structure
Members pay annual dues ($3,000 - $15,000) based on population. Dues supply 80% of the budget; the remainder is raised as grants to support collective objectives. Set out in annual action plans, these objectives have included plastic bag bans and (currently) energy benchmarking and data access. Members confer during monthly topical calls, workshops, and two retreats per year. Leadership is provided by a Steering Committee comprised of a rotating cast of founding and newer members.

To qualify for membership, municipalities must pass a climate action or sustainability plan and sign on to the Conference of Mayors Climate Protection Agreement. They must also pass the GCC Sustainability Resolution, which entails pledges to purchase 100% post-consumer recycled paper and to eliminate the purchase of bottled water for all government operations and sponsored events. Beyond these minimum criteria, the admission decision is made by consensus of existing members.

Challenges/Needs/New Directions
- The GCC is exploring forming itself as a 501 c3 non-profit.
- Members may be interested in adding a certification element to the GCC.
- Designing collective initiatives is very difficult given the many demands on the time of members (individual representatives). To make the time commitment feasible a "delicate balance" must be struck in crafting initiatives that cover new territory yet build on what members are already working on for their demanding day jobs as municipal staff.

Clean Energy Communities (Connecticut)

Type/Major Focus Governmental Energy/climate-focused

Size Large

Participation 147 registered municipalities & counties (87% state total municipalities); 2 (1.2%) made the grade as Clean Energy Communities

Staff 9.5 FTE

Primary Institution(s) Managing Program
Connecticut's two major electrical utilities, Eversource and United Illuminating; Connecticut Green Bank.

Other Managing or Key Partners
Connecticut Energy Efficiency Fund (administered by the two utilities); Institute for Sustainable Energy, Eastern CT State University

Initiation
State energy deregulation legislation passed in 1998 and established charges on ratepayers' electricity and gas bills have been used to support an evolving program. The original Clean Energy Communities was established in 2002 to promote renewable energy. CEC expanded to include energy efficiency and was brought under the umbrella of the utilities-managed Energize Connecticut initiative in 2010.

Mission/Goals/Scope
CEC promotes energy conservation and efficiency, including renewable energy, "creating a cleaner future today and for generations to come."

Program Structure
The program supplies incentives and support for municipalities to meet these goals. The first step is to adopt the "Clean Energy Communities Municipal Pledge" and thereby commit to: (1) reduce municipal building energy consumption by 20% and (2) to source 20% municipal building electricity from clean renewables, both by 2018. (Note: schools are included as municipal buildings). Participants then develop a municipal action plan and undertake energy benchmarking using the EPA's Portfolio Manager. Program staff and consultants provide technical assistance and marketing (e.g., social media). Towns submit energy consumption data electronically through their Portfolio Manager accounts, which feed directly to a publicly accessible Energy Dashboard. Meeting these targets and implementing "municipal action steps," selected from among of suite of options provided, earns them points. One hundred points may be redeemed for Bright Idea Grants ($5,000 - $15,000) for energy-saving projects. Points can also be earned for the installation of residential renewable energy systems, with a multiplier applied to give a boost to small communities (<1000 households). Communities, acting individually or as regional school districts, can redeem 100 of these renewable energy points for the installation of clean energy systems. The program measures cumulative energy and cost savings and presents this information at an annual recognition ceremony.

Challenges/Needs/New Directions
- Bronze (pledge), Silver (energy reduction) and Gold (targets met) levels of achievement will soon be added to the program.
- Once the 2018 targets are met, progress must continue to be aligned with state and federal mandates.
- Many different organizations and programs are trying to do the same work, creating obstacles and confusion. "There are so many different players that the towns don't know who to go to."

Florida Green Building Coalition

Type/Major Focus Membership, General sustainability

Size Medium

Participation 79 municipalities & counties registered (19% of state municipalities); certified 66 (14.1%)

Staff 2 FTE

Primary Institution(s) Managing Program
Florida Green Building Coalition, a non-profit membership-based organization governed by an elected Board of Directors.

Initiation
The Florida Green Local Government Standard was created under a grant from the U.S. Department of Energy and the Florida Energy Office that supported a collaborative effort under the leadership of the FGBC, together with the Florida Solar Energy Center, several counties, cities and consulting firms.

Mission/Goals/Scope
The mission of the Florida Green Building Coalition (FGBC) is "to provide a statewide green building program that defines, promotes, and encourages sustainable efforts with environmental and economic benefits." One of five types of certification offered, the FGBC Green Local Government Standard "designates Green Cities and Green Counties for outstanding environmental stewardship." It aims to improve the environmental performance (energy, water, air, land, waste) of local government, thereby its efficiency, through better internal communication, cost reduction, and effective risk and asset management. It offers a flexible, Florida-specific set of standards together with a "one stop shop" of resources to help meet them and to raise community awareness.

Program Structure
A local government interested in certification pays an application fee (based on population) and is thereby 'registered.' Next, aided by a spreadsheet tool, the municipality or county identifies areas where it fails to meet suggested levels of compliance and for each area then sets a minimum bar and maximum number of applicable points relative to its own goals and conditions. Documentation is submitted for review by an independent third-party under contract with FGBC, who then awards Bronze through Platinum designations based on percentages of the maximum applicable points achieved. Re-certification is required after five years.

The standards are periodically reviewed and revised after public comment by the FGBC Standards Committee. User certification fees provide 100% of program funding.

Challenges/Needs/New Directions
- Some communities find the certification process cumbersome or balk at fees. It is challenging to put policies in place to maintain the sustainability effort.
- FGBC is working to supply incentives for achieving and maintaining their local government green standard. (Currently, it qualifies them for some state grants.)
- FGBC envisions that "the standard will act as an excellent metric on which to base eventual statewide incentives to cities and counties who become certified. It could also be used in the regulatory arena, where a non-compliant local government could be given the option of achieving the certification, as opposed to other regulatory actions that may be taken against them."
- FGBC lacks a tracking mechanism for post-certification accomplishments and thus impacts.

Massachusetts Green Communities

Type/Major Focus Governmental; Energy focused

Size Large

Participation 136 municipalities (39%)

Staff 10 FTE

Primary Institution(s) Managing Program
The Green Communities Division of the Massachusetts Department of Energy Resources (DOER) in the Executive Office of Energy and Environmental Affairs.

Other Key Partners
State Legislature, Massachusetts Municipal Association, utilities; regional planning agencies, and local officials serve on GC Advisory Committee.

Initiation
Through the Green Communities Act of 2008, the Massachusetts Legislature mandated the establishment of the Division in order to assist towns and cities to engage in the statewide drive to boost energy-efficiency and the use of renewable energy. The program was rolled out in 2009.

Mission/Goals/Scope
The Green Communities program assists Massachusetts cities and towns to "find clean energy solutions that reduce long-term energy costs and strengthen local economies." The Green Communities designation is awarded to those municipalities that successfully meet 5 energy-related criteria, including: creating a plan to reduce energy use by 20% in 5 years as well as employing renewable energy siting and permitting, fuel-efficient vehicles, and efficient building codes.

Program Structure
Upon designation, Green Communities receive a one-time grant and then become eligible for competitive grants for energy efficiency or renewable energy projects. The statue requires municipalities to establish a baseline and report annual energy usage not only in municipal facilities (including schools), but also in street lighting, open space, vehicles, and drinking and waste water facilities. Most municipalities use an (optional) online data-tracking tool and are greatly aided by the automatic uploading of confidential electricity and natural gas usage data by the utilities. However, they still bear the burden of entering cost and use data for other fuels. Four Regional Coordinators provide individualized help to communities upon request. *With strong technical assistance from the state and almost $10 million to give out annually as grants to communities, MGC is the best-resourced program in this study.

Challenges/Needs/New Directions
- As more communities achieve GC designation, the program is bumping up against a statutory funding cap of $10 million/year established by the GC Act.
- Seven municipalities have already reached their 20% goal. The Division is looking into ways to recognize them and to promulgate regulations or offer opportunities (such as a broader range of grants) to take them beyond that goal.
- Other communities have been in the program for five years and appear to be stuck.
- The GC Advisory Committee has expressed interest in expanding beyond energy to encompass other elements of sustainability, such as water and waste. However, the options are constrained by legislative mandates and administrative silos.

Sustainable Maryland

Type/Major Focus NGO-University, General sustainability

Size Medium

Participation 58 municipalities (37%)

Staff 2 FTE

Primary Institution(s) Managing Program
Environmental Finance Center (EFC) at the University of Maryland (one of 10 US EPA-funded centers assisting local officials)

Other Key Partners
Maryland Municipal League (MML)

Initiation
In 2011, EFC received funding from EPA Region 3 to develop its sustainability initiative following the Sustainable Jersey model, including adapting its Task Force-based structure and interactive website. A Mayor's Advisory Council provided initial guidance; several members continue to serve on the Executive Committee, which also includes members of the MML, state agencies and the private sector.

Mission/Goals/Scope
"The Mission of Sustainable Maryland is to enhance livability for all Marylanders by helping municipalities choose a direction for their sustainability efforts, improve access to resources needed to implement actions, measure their progress, and gain recognition for their accomplishments." Task Forces develop and review actions in seven areas that cover food, energy, climate, health, local economies, natural resources, planning and land use, and community action.

Program Structure
After passing a resolution and completing an online form, a municipality becomes registered and is provided with an online account. After forming a mandatory Green Team, municipalities choose among a menu of actions, each accompanied with detailed resources and step by step directions provided on the website. As they complete actions, municipalities upload documentary evidence, which is then reviewed by EFC staff as well as various local subject matter experts for approval. 150 points and 2/6 priority actions make the grade for certification, good for 3 years before re-certification would be required

Challenges/Needs/New Directions
- Funding is a continuing challenge.
- Only 30% of the population of Maryland lives in its 157 municipalities. The remainder live either in Baltimore City or unincorporated areas under counties.
- SM recently began an intensive engagement with one county to begin the process of developing a county-level certification.
- Currently the program has only one level of certification: several tiers are planned.
- Lack of impact metrics and data poses challenge for showing impact, a longer-term goal.

Michigan Green Communities

Type/Major Focus NGO/University, General sustainability

Size Small

Participation 33 municipalities & counties (2% total municipalities) registered;
25 municipalities & counties certified;

Staff 1 FTE

Primary Institution(s) Managing Program
Michigan Green Communities (MGC), a regional network, is a program of the Michigan Municipal League (MML)

Other Key Partners
Michigan Townships Association, Michigan Association of Counties, Michigan Department of Environmental Quality and Michigan Energy Office.

Initiation
The original MGC Challenge, launched in 2009, grew out of a collaboration between the MML and the State Energy Office and emphasized energy efficiency. Subsequently, the University of Michigan School of Natural Resources and Environment worked with participants and the MGC Advisory Committee to broaden the scope, resulting in a new launch in August 2012.

Mission/Goals/Scope
MGC is a peer-to-peer network connecting local government leaders to share "homegrown" best practices and overcome obstacles to sustainability. Its Michigan Green Communities Challenge "serves as a guide for communities to measure their progress toward sustainability, encourages friendly and productive competition between Michigan communities) provides a framework for peer-to-peer benchmarking, and recognizes communities for their sustainability accomplishments." In addition to the Challenge, over 150 communities have participated in other MGC learning activities, including an annual conference, webinars, and monthly conference calls.

Program Structure
The Challenge includes four categories – Administration and Planning, Built Environment, Economic Development and Natural Resources. Communities become members by registering online. They earn points by completing action items in each category on a checklist, which is then filled out and submitted online. Point totals are then compared to other participants of the same community type and similar size. Above the Bronze level, which is awarded simply on the basis of forming a Green Team, certification is based on percentile rank: Silver at 50th-75th percentile range, and Gold above that. (Note: Bonus points awarded for reporting quantitative data).

Challenges/Needs/New directions
- Increase the level of participation and geographic spread
- Form resource teams, working groups or peer review groups; keep members engaged regularly – year-round peer learning
- Foster and provide support for collaborative projects among members
- Begin peer review of policy and ordinances; develop web interface
- Stable funding for network and grant opportunities for network members

Minnesota GreenStep Cities

Type/Major Focus Public-private partnership; General sustainability

Size Medium

Participation 91 municipalities registered (11% of the 855 state total and 26% of those w/population >1000), 57 certified (7% total)

Staff 1.5 FTE, not including state employees providing technical assistance (Clean Energy Resource Teams (CERTs))

Primary Institution(s) Managing Program
Minnesota Pollution Control Agency (MPCA) and Great Plains Institute co-direct, heading a steering committee also including:

Other Managing Partners
League of Minnesota Cities plus 2 other NGOs, the 7 state (CERTs), Division of Energy Resources, Department of Commerce.

Initiation
In 2008, the state Legislature directed the Division, the MPCA, and the CERTs to recommend actions communities could volunteer to take in return for recognition as "green stars." As what became the Minnesota GreenStep Cities program was developed under broad-based consultation with communities and non-profits, its scope expanded beyond the initial focus on clean energy. The program opened for enrollment in 2010.

Mission/Goals/Scope
Minnesota GreenStep Cities is a "voluntary challenge, assistance and recognition program" that defines its mission in terms of helping cities achieve their own "sustainability and quality-of-life goals." It envisions a future in which "environmental sustainability is adopted as the "norm for all Minnesota Cities." The first priority is to get as many municipalities as possible engaged at the entry level in order to reach a "tipping point" after which the program, and with it, the sustainability norm, would build up sufficient momentum to spread rapidly. Thereafter, communities are guided to implement best practices focused in the areas of buildings and lighting, land use, transportation, water, waste, and economic and community development.

Program Structure
Minnesota GreenStep Cities is a voluntary challenge, assistance and recognition program to help cities achieve their sustainability and quality-of-life goals." Enrollment (Step 1) requires only that the city council pass a resolution to work towards GreenStep recognition. Step 2 cities have implemented a certain number of the 28 best practices, selecting from a menu of 4-8 actions under each, at a 1, 2 or 3-star level. Standards are more demanding depending on community size category. To reach Step 3 all required best practices and actions must be completed. Soon a Step 4 will be added that will recognize municipalities for reporting quantitative outcomes. Eventually Step 5 communities will show continuous improvement over this baseline. Participants post reports on their actions on the program website, along with contact information.

Challenges/Needs/New Directions
- Funding is a continuing challenge, as are :
    - building political support and
    - maintaining a sense of community among participants.
- With the imminent launch of Step 4, participants will begin reporting on 35 or so metrics. It will be difficult to devise a methodologically sound basis for attributing any future shifts in these metrics to the impact of the program.

Sustainable Jersey (New Jersey)

Type/Major Focus NGO/University, General sustainability

Size Large

Participation 430 (76%) registered, 191 (34%) certified

Staff 11.5 FTE

Primary Institution(s) Managing Program
Sustainable Jersey Inc.; Sustainability Institute, The College of New Jersey (TCNJ)

Other Key Partners
NJ League of Municipalities (NJLM), NJ Department of Environmental Protection (NJDEP), Board of Public Utilities (BPU)

Initiation
In 2006, the Dodge Foundation funded TCNJ to explore how to support NJ municipalities to progress towards sustainability. At the same time, a "green mayors" group formed by the NJLM, the NJDEP, and the BPU were each working toward similar ends. The four groups began to collaborate, and in 2007 enjoined a broad-based group of NJ stakeholders to form task forces in order to identify best practices in 13 dimensions of sustainability. In 2009 the Sustainable Jersey program launched its first round of certifications, evolving in 2011 to become a non-profit 501(c))(3) organization, administered and staffed by the Sustainability Institute at TCNJ.

Mission/Goals/Scope
SJ endeavors to provide communities with tools, training and financial incentives to pursue broad sustainability goals, encompassing a healthy environment, vibrant economy, and equitable social well-being now and into the future.

Program Structure
In order to register in Sustainable Jersey (SJ), a municipality must simply pass an official resolution of intent to participate, name a formal liaison, and create an online account. In order to become certified at the Bronze level, a municipality must form a 'green team' as a formal body of local government and choose from a customized menu of 120 actions. By implementing these research-based best practices, municipalities accumulate the required points, which must also cover a required number of categories and 'priority actions' to ensure breadth and depth. Documentary evidence must then be posted on the publicly accessible project website and approved by SJ reviewers. Promotion to the Silver level requires the accomplishment and approval of an additional number of points, priority actions and categories. After 3 years, recertification is required. Actions are created by 23 issue-based task forces comprised of experts and diverse stakeholders. Through the interactive SJ website, webinars, training, staff support, and grant opportunities, municipalities have access to the specific guidance and resources to assist with planning and completing actions. SJ leverages public and private funds to offer competitive grants to registered communities. In addition, state agencies participate in policy development for the program and integrate Sustainable Jersey into their existing grant programs via bonus points.

Challenges/Needs/New Directions
- Under development now, the Gold level of certification will be based on local performance measures (quantitative or qualitative) that can also be shown to be making collective impact at the state level.
- "Keep partners and funders happy, but maintain our independence and credibility," while "managing growth" of the program (participants and staff).

Climate Smart Communities (New York)

Type/Major Focus Governmental, energy and climate focused

Size Medium

Participation 169 municipalities and counties (10.5% total state municipalities; 33% of state population) are registered CSCs; 6 are certified (0.3% of number of state municipalities, 2.8% of state population);

Staff 1.5 FTE at agency with 6.5 FTE contractors in field

Primary Institution(s) Managing Program
Office of Climate Change, Department of Environmental Conservation, NY State Government

Other managing partners
Jointly sponsored with five other state agencies, including the NY State Energy Research and Development Authority (NYSERDA). The creation of the Climate Smart Communities Certification program was informed by a stakeholder advisory group that included all six agencies, regional planning councils, university researchers, and local environmental non-profits.

Initiation
In 2009, a small group of state agency leaders came up with the idea for recognizing "Climate Smart Communities" (CSC). In 2013, the program was expanded to encompass certification, at first on a pilot scale, then going statewide in April 2014.

Mission/Goals/Scope

Municipalities do their part to tackle climate change through:
- reducing greenhouse gas emissions and
- enhancing climate resilience.

Local governments improve municipal operations and enable the entire community to adopt climate-smart practices through land use plans, zoning and building codes, efficient transportation policies and public education.

Program Structure
Once local governments adopt the 10-point pledge as a formal resolution, they are recognized as "registered Climate Smart Communities." Six have completed additional steps to become certified by completing actions from among over 120 listed in the CSC Certification Manual. Designed around the 10 pledge elements, the certification program recognizes leading communities through a rating system with four levels of award: Certified, Bronze, Silver and Gold. They must be re-certified every 5 years. Four Climate Smart Community Regional Coordinators are under contract to provide technical assistance to communities in the pilot areas. Two additional Regional Coordinators provide support for the entire state in greenhouse gas inventories and land-use planning. (Funding for the Coordinators is slated to end in November 2015).

Challenges/Needs
- Lack of coordination among state agencies. Other state-level community programs have been initiated that have overlapping missions and unclear relationships to CSC.
- Low rate of participation and uptake in the certification program. Many communities are availing themselves of program resources, but few are making the effort to undergo the formalities of applying for certification.
- Limited funding. The program's impact would expand if CSC could offer funds for community grants and long-term direct technical assistance to municipalities.

Sustainable Pennsylvania

Type/Major Focus NGO-University, General sustainability

Size Small

Participation 58 municipalities registered, or 2.3% of state total of 2561; 45 certified (Pennsylvania has the highest number of municipalities among states in this study. Of these, only 500 are "full-service" (provide police, public works, etc.) and thus more likely to have the capacity to participate in the near future).

Staff 1.5 FTE

Primary Institution(s) Managing Program

Pennsylvania Municipal League (PML)
Other managing partners: Sustainable Pittsburgh, Lebanon Valley College

Initiation

In 1998, civic leaders founded Sustainable Pittsburgh, which developed a municipal certification program for southwest Pennsylvania. Years later, several state employees initiated discussions with the League, Sustainable Pittsburgh and other stakeholders that resulted in the statewide expansion of the Sustainable Pittsburgh program with PML as secretariat and Sustainable Pittsburgh as the operational certifier. Sustainable Pennsylvania Community Certification was launched in 2013.

Mission/Goals/Scope

Community prosperity is the ultimate aim of this program. According their website, "Local government … has both a profound role and responsibility for leading the way to quality of life and access to opportunity in our communities and region. … Adopting sustainability as your municipal strategy will benefit government operations, foster community economic opportunity, and lead to a resilient, attractive community." Sustainability is broadly construed, incorporating: Governance and Community Engagement; Healthy Communities; Diversity, Equity and Inclusion; Education; Energy Use, Conservation and Green Building; Environmental Stewardship; Housing; Land Use and Transportation; and Local Economy.

Program Structure

Municipalities choose from among 131 sustainability enhancing policies and best practices presented as Yes/No statements. Points are earned for each "Yes" answer indicating that the municipality has the policy/practice in place. The assignment to one of five levels of certification is based on a combination of points earned and percentages of answers for which a link is provided to a website that provides substantiating evidence. Staff check submissions for completion and correct format. "Yes" results are posted on the program website, forming a library of examples.
Certification qualifies communities in SW PA for certain grant opportunities.

Challenges/Needs/New Directions

The program seeks:

- acknowledgement by state agencies and leveraging of state resources;
- methods for demonstrating cumulative program impact;
- more effective marketing to attract more communities to seek certification;
- more federal, state and private grant opportunities for certified communities.

Green Tier Legacy Communities (Wisconsin)

Type/Major Focus NGO-University, General sustainability

Size Small

Participation 12 municipalities (0.6% of state total). Many of Wisconsin's 1851 municipalities are very small. However, Charter participants include "cities" with populations as low as around 500.

Staff 0.5 FTE

Primary Institution(s) Managing Program
1000 Friends of Wisconsin and the Wisconsin Department of Natural Resources (DNR)

Other Managing Or Key Partners
League of Wisconsin Municipalities

Initiation
In 2010, at the initiative of the non-profit 1000 Friends of Wisconsin, an agreement was reached with the state DNR to apply its Green Tier Charter Program, originally designed for industry, to provide guidance and incentives for communities to adopt best practices that advance their sustainability. Three other non-profit organizations and several local governments joined in signing the new Charter.

Mission/Goals/Scope
The Green Tier Legacy Communities website states, "Our mission is to help communities across the state of Wisconsin move continuously toward a sustainable future through initiatives that promote environmental stewardship, economic growth, public health, and social equity." The best management practices recommended cover a slightly narrower set of categories, namely: transportation, land use policy, energy, water, waste and healthy communities. Signatories pledge to make "continuous improvement" toward "superior environmental performance," defined in terms of benchmarks communities set themselves, according to local priorities.

Program Structure
Communities that voluntarily adopt the Charter through a formal resolution then develop a sustainability plan, selecting from the strategy options provided by the program or with support, developing their own. They present reports on the strategies implemented and progress towards their benchmarks on their websites and at quarterly Steering Committee meetings at which they showcase their efforts, network and exchange ideas. The Steering Committee acts on recommendations made by a smaller Executive Committee that meets monthly. "Peer pressure" supports accountability.
Green Tier communities get preferential points in various state grant applications. They also benefit from direct access to a DNR resource team that provides technical assistance and acts as a "single point of contact" for all interactions between the community and the department. DNR staff carry out most administration of the program.

Challenges/Needs/New Directions
- Charter communities have jointly put in funds to hire a consultant to assist them in energy benchmarking.
- The program strives to increase the number of municipalities participating.
- Soon counties will be able to join as well.
- Issues of concern include funding and opposition from Anti-Agenda 21 groups.