

EXECUTIVE SUMMARY

2013 CITY ENERGY EFFICIENCY SCORECARD

September 2013

Energy efficiency may be the cheapest, most abundant, and most underutilized resource for local economic and community development. Considerable evidence documents that investments in energy efficiency can improve community self-reliance and resilience; save money for households, businesses, anchor institutions, and local governments; create local jobs; extend the life of and reduce the costs and risks of critical infrastructure investments; catalyze local economic reinvestment; improve the livability and the local asset value of the built environment; and protect human health and the natural environment through reducing emissions of criteria pollutants and greenhouse gases.

Local leadership and commitment to energy efficiency is strong in many communities around the United States. The specific responsibilities of local governments give them large influence over energy use in their communities. Cities and metropolitan areas can be the optimal scale at which to implement certain community-wide energy efficiency initiatives because of their interconnected labor markets, social networks, the physical proximity of interrelated economic activities to each other, and the resulting innovations and economies of scale. Local and metropolitan energy efficiency initiatives provide benefits where they are most tangible and visible to residents, directly improving the communities where residents live and work.

This first edition of the *City Energy Efficiency Scorecard* ranks 34 of the most populous U.S. cities on their policies and other actions to advance energy efficiency. It puts these actions in context by also presenting data on energy consumption in these cities when possible. By considering both policies and energy performance, the *City Scorecard* reflects the current activities and historical legacies in each city, and as a result provides actionable information to policymakers and residents. The data on policies and other local actions and resulting scores help to identify cities that are excelling and those that have room for improvement. We provide examples throughout the *Scorecard* of best practice actions being taken by leading cities in various policy areas. As a result, the *Scorecard* offers the beginning of a roadmap for any local government aiming to improve its city's energy efficiency through the most effective means possible, learning from other cities' successes and customizing best practice strategies to suit the local context and their community's priorities.

KEY FINDINGS

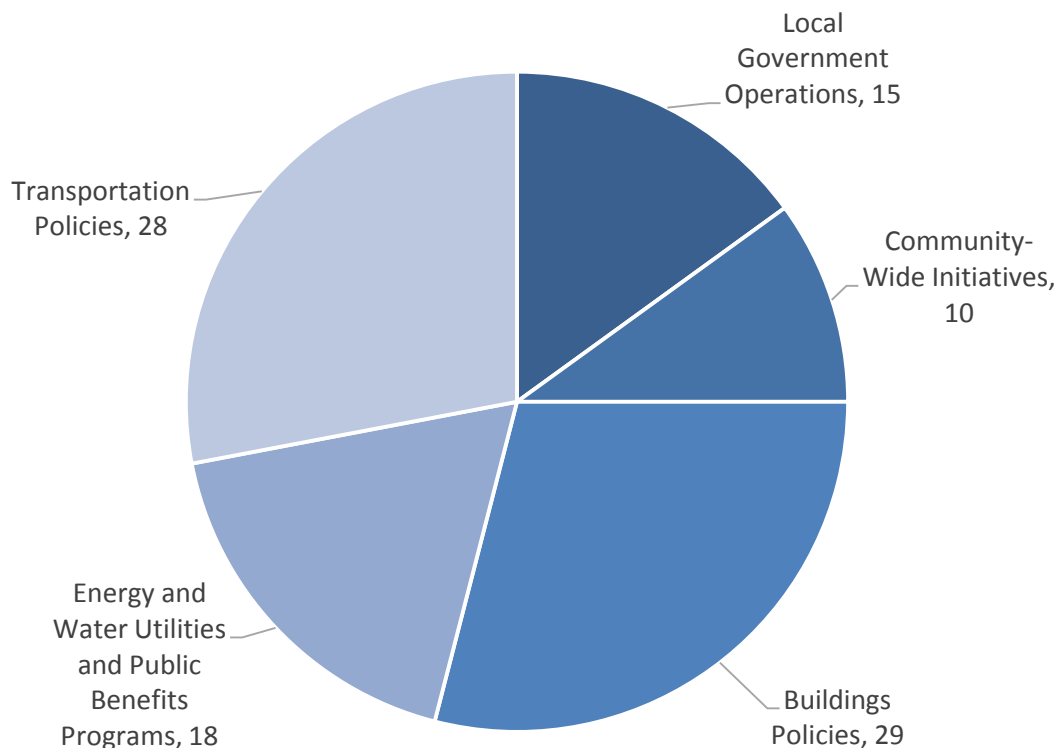
- **Boston** achieved the highest score overall, 76.75 out of a possible 100, and scored well in all policy areas. Particularly notable are its community-wide programs and utility partnerships, including the Renew Boston initiative.
- The other top-scoring cities include **Portland, New York City, San Francisco, Seattle,** and **Austin**. These cities all received more than 60% of possible points and are leaders in energy efficiency across the sectors of their economy. All currently have broad-ranging efficiency policies and programs and also have a significant history of implementing efficiency initiatives.

- Occupying the next tier are those cities receiving more than half of possible points, including **Washington, D.C.; Minneapolis; Chicago; Philadelphia;** and **Denver**. These cities, while slightly lower scoring, have developed comprehensive efficiency initiatives and are poised to rise in the rankings in future years.
- Leaders in efficiency in **local government operations** include **Portland, San Francisco,** and **Phoenix**, all of which have made significant efforts to develop efficiency-related goals for city government and improve procurement and asset management.
- The top-scoring cities on **community-wide initiatives** are **Boston, Austin, New York City,** and **Philadelphia**. These cities have efficiency targets for the entirety of their community, have developed systems to track progress, have outlined strategies for mitigating urban heat islands, and make significant use of efficient distributed-energy systems such as district energy and combined heat and power.
- Leading cities on **buildings policies** include **Seattle, New York City, Austin,** and **Boston**. These cities have made significant efforts supporting the adoption of stringent building energy codes, devoted noteworthy resources to building code compliance, established requirements and/or incentives for efficient buildings, set policies to improve the availability of information on energy use in buildings, and supported significant program and workforce infrastructure to provide residents access to comprehensive efficiency services.
- The leading cities on **utilities and public benefit programs** are **Boston, San Francisco, New York City,** and **Portland**. Residents and businesses in these cities have access to significant energy efficiency programs achieving high levels of savings. These cities also have productive relationships with their utilities on program implementation and access to energy data. Seattle, New York City, El Paso, and Fort Worth are leaders on water-related efficiency in their drinking water, wastewater, and stormwater utilities.
- Cities with the top **transportation policy** scores include **Portland, Boston, Atlanta, San Francisco,** and **Philadelphia**. High-scoring cities have implemented a variety of transportation efficiency initiatives including those related to location-efficient development, shifts to efficient modes of transportation, transit investments and service levels, efficient vehicles and vehicle infrastructure, and energy-efficient freight transport.
- **Austin** is notable as **the city furthest ahead of its state** on energy efficiency policy. While Austin led Texas in all policy areas, the difference was most significant on policies regarding building efficiency.
- **All cities**, even the highest scorers, **have significant room for improvement**. Boston, the highest scoring city, missed nearly a quarter of possible points. Only 11 cities scored more than half of the possible points. All cities can improve their efficiency initiatives to increase their scores.
- Our review of **energy performance indicators** for each city found no statistically significant correlation between the *Scorecard's* policy scores – at the overall or policy area level – and energy consumption for the city as a whole or in individual sectors. However, we found a correlation between energy consumption and policy scores for *specific metrics* within certain sectors, such as greater presence of ENERGY STAR®-certified buildings and greater share of commutes by less energy-intensive transportation modes, which were correlated with higher building and transportation policy scores respectively.

METHODOLOGY

The *City Scorecard* provides an assessment of policies and other actions to improve energy efficiency in cities, including in local government operations, buildings, energy and water utilities, transportation, and the community as a whole. Each policy area is divided into several individual metrics; scores were calculated for each metric and were aggregated to develop overall scores for each policy area and overall scores for the *Scorecard*. Scores were based on information on policies in each city as of June 2013. The maximum number of points possible across all policy areas and metrics was 100. Figure ES-1 includes the distribution of these points across the five policy areas.

Figure ES-1: Distribution of Points by Policy Area



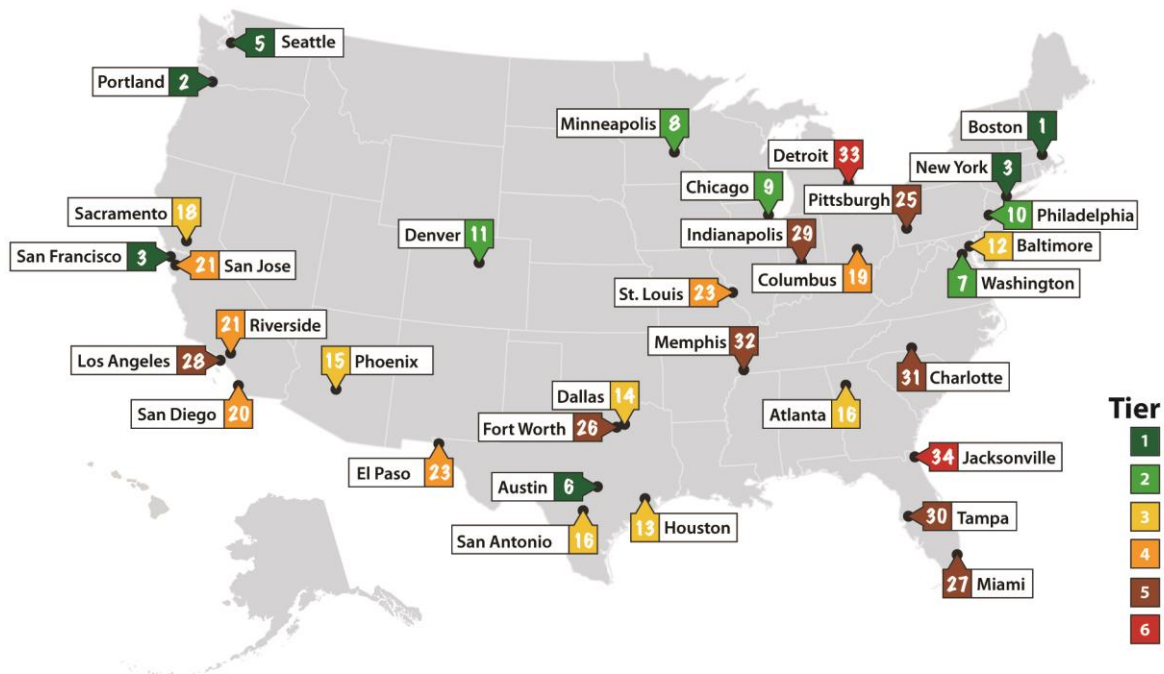
The development of the *Scorecard* was a multi-step process focused on engaging stakeholders, refining the methodology, and collecting and verifying data from a variety of sources. Early on, we shared a document containing a methodology review and proposed metrics and scoring with a diverse group of local government and efficiency stakeholders, and based on feedback from these groups we adjusted the methodology, metrics, and scoring allocation. We compiled data from publicly available data sources, using both organized databases and information available in various locations on the Internet, such as city sustainability and energy websites. Based on our initial research and information gaps we identified, we developed and sent data requests to local government staff (primarily city sustainability directors or energy managers) and other knowledgeable stakeholders in the cities. We applied the scoring methodology to the data collected to produce the initial draft of this report. We conducted an extensive review

process in which experts, stakeholders, and city staff reviewed and commented on the data on which scores were based and the methodology used before we finalized the report.

RESULTS

Figure ES-2 shows how cities ranked in the *City Scorecard*, dividing them into six tiers of similarly scoring cities. The policy-area-specific scores on which these overall scores were based are detailed in Table ES-1. The cities in each tier varied with regard to the policy areas in which they scored poorly or well, but in general they are at a similar level overall in the development of their actions on energy efficiency. In many ways the differences among individual cities, and particularly the fractions of points that separate many of them, are less important than the differences among these tiers.

Figure ES-2: City Rankings in the 2013 City Energy Efficiency Scorecard



Boston earned the highest total score of 76.75 points, followed by Portland with 70, and New York City and San Francisco both with 69.75 points. Seattle and Austin round out the top-scoring cities. The cities in the top two tiers have all made significant long-term commitments to energy efficiency, although the policy areas emphasized and the policy contexts in which they operate vary considerably. The six top-tier cities in this edition of the *City Scorecard* come from diverse geographies and energy markets—three from the Pacific coast, one from New England, one from the Middle Atlantic, and one from the South Central United States. The cities in the second tier—Washington, D.C. (7), Minneapolis (8), Chicago (9), Philadelphia (10), and Denver (11)—include representatives from the Midwest and the Mountain states.

Table ES-1: Summary of City Scores

Rank	City	State	Local Government Operations (15 pts.)	Community-Wide Initiatives (10 pts.)	Buildings Policies (29 pts.)	Energy & Water Utility Policies and Public Benefits Programs (18 pts.)	Transportation Policies (28 pts.)	TOTAL SCORE (100 pts.)
1	Boston	MA	11	9.5	21.5	15.75	19	76.75
2	Portland	OR	13.75	7.5	14.5	14.75	19.5	70
3	New York City	NY	10.5	9	22	15.25	13	69.75
3	San Francisco	CA	13	8	17	15.75	16	69.75
5	Seattle	WA	10.75	6	22.5	14.75	11.25	65.25
6	Austin	TX	9.75	9	21.5	10.75	11	62
7	Washington	DC	8.25	4	21	8.75	14	56
8	Minneapolis	MN	10	6.5	10	13.75	15	55.25
9	Chicago	IL	10.75	8	12	13.5	10.5	54.75
10	Philadelphia	PA	10.5	8.5	11.5	8.5	15.5	54.5
11	Denver	CO	11	7.5	7.5	14.25	12.5	52.75
12	Baltimore	MD	8.75	8	9	8.75	12	46.5
13	Houston	TX	8.75	6	11.5	9	10	45.25
14	Dallas	TX	9.5	6	7.5	8.25	13	44.25
15	Phoenix	AZ	12.25	4.5	11	10.25	5.5	43.5
16	Atlanta	GA	6.75	6	6	6.25	17.5	42.5
16	San Antonio	TX	9.5	6	7.5	8	11.5	42.5
18	Sacramento	CA	8.5	4.5	8.5	11.75	7.5	40.75
19	Columbus	OH	11.25	2	4.5	11.75	9	38.5
20	San Diego	CA	8.25	6	7.5	11.25	5.25	38.25
21	Riverside	CA	5.5	5.5	7.5	11.25	7.5	37.25
21	San Jose	CA	6.25	6	8	11.5	5.5	37.25
23	El Paso	TX	9.25	4.5	3	10	9.5	36.25
23	St. Louis	MO	7	7	7	3.25	12	36.25
25	Pittsburgh	PA	5.25	6.5	7	7.5	8	34.25
26	Fort Worth	TX	8.25	6.5	4.5	8.75	4.75	32.75
27	Miami	FL	5	6.5	6.5	5.5	8.5	32
28	Los Angeles	CA	3	4	6.5	10	8	31.5
29	Indianapolis	IN	5.75	3	3.5	7	9	28.25
30	Tampa	FL	5	4.5	6.5	5.75	5	26.75
31	Charlotte	NC	5.75	2.5	3	4.5	8	23.75
32	Memphis	TN	3.5	3.5	4.5	3	9	23.5
33	Detroit	MI	1.5	3	5.5	4.5	4.5	19
34	Jacksonville	FL	2.5	3	3.5	4.5	3.75	17.25

The differences among the total scores of cities within the middle scoring tiers are small. Only 3.25 points separate the cities in the second tier, and 5.75 and 2.25 points separate the cities in the third and fourth tiers, respectively. Small improvements in energy efficiency actions in these cities may have significant impacts on their future rankings. Conversely, cities in these tiers not actively improving may find their relative rank falling in future editions of the *City Scorecard*. Cities in the top and bottom tiers, however, had wider variations in scoring, as 14.75 points separate the six top-tier cities and 10.75 separate those in the fifth tier. Among high-scoring cities this likely represents some specialization in activities, such as a focus on policies related to either utilities or buildings, and intentional efforts to distinguish themselves among their peers. Among the lower-scoring cities this wide distribution may indicate that there are many cities that are relatively new to energy efficiency activities or that are just beginning comprehensive efficiency initiatives.

STRATEGIES FOR IMPROVING EFFICIENCY

Every city has considerable room for improvement. For cities wanting to improve their energy efficiency and also improve their ranking in the *City Scorecard*, we offer the following high-level recommendations:

- **Lead by example by improving efficiency in local government operations and facilities.** Energy efficiency can be integrated into the day-to-day activities of local government. City governments can systematically implement energy-efficient technologies and practices by adopting policies and programs to save energy in public sector buildings and fleets. They can encourage changes in employee behavior and in standard practices such as procurement. They can also adopt guidelines and policies to direct investment toward more energy-efficient infrastructure (Chapter 2).
- **Adopt energy savings targets.** Energy efficiency-related goals that are endorsed and codified by community and political leaders are often essential for focusing public and private sector resources to achieve energy savings. Goals can come in many flavors. The most common types are goals related to energy use in the community as a whole and those related to energy use in government operations, and these goals can lay the foundation for further policy activity (Chapters 2, 3, 4, and 5).
- **Actively manage energy performance, track and communicate about progress toward goals, and enable broader access to energy use information.** A systematic approach to strategy implementation, including regular tracking and reporting of progress toward goals, can help cities identify opportunities for improving the energy plans by revising timelines, targets, or program strategies. Staff members exclusively tasked with energy management are often needed to effectively implement tasks required to achieve energy-related goals. Performance management also requires data. Cities can work to improve access to energy use data for their own purposes, and can also help improve the energy data available to residents and businesses to encourage them to take efficiency actions (Chapters 2, 3, 4, and 5).
- **Adopt policies to improve efficiency in new and existing buildings.** To improve the efficiency of new buildings, cities can make sure that their efforts in compliance and enforcement of building energy codes are effective and well-funded. If a city has the authority under state law, it can adopt building energy codes with increased stringency. If not, it can advocate for the state to do so. To improve energy efficiency in existing

buildings, cities can encourage better integration of energy information into their local real estate markets through policies requiring energy benchmarking, rating, or disclosure for existing buildings. Cities can also provide incentives for efficient buildings, require energy audits, or implement energy performance requirements for certain building types (Chapter 4).

- **Partner with energy and water utilities to promote and expand energy efficiency programs.** Utilities are the primary funders and administrators of customer efficiency programs in most places around the country. Cities can partner with utilities to promote efficiency programs to their residents and provide additional value added to program delivery to help increase participation and savings. Cities can also be important voices in state utility regulation to encourage the expansion and improvement of efficiency programs run by investor-owned utilities (Chapter 5).
- **Implement policies and programs to decrease transportation energy use through location-efficient development and improved access to additional travel mode choices.** Cities can ensure that major destinations are accessible by more energy-efficient transportation modes through location-efficient zoning and policies that integrate transportation and land use planning. Local governments can expand residents' transportation choices and create neighborhoods that support safe, automobile-independent activities. Cities can implement policies that discourage residents from frequent driving and encourage a switch from driving to other modes of transportation (e.g., public transit, bicycling, walking) through the use of transportation demand-management programs and car- and bicycle-sharing efforts (Chapter 6).

CONCLUSIONS AND LOOKING AHEAD

Cities around the United States are demonstrating leadership on energy efficiency through a diversity of policy actions related to transportation, buildings, energy and water utilities, and local government operations, as well as policies that target the community as a whole. The benefits of these policies and practices range from economic development and environmental protection to reducing the costs of infrastructure and services.

But despite this significant level of local activity on efficiency, a wide gap exists between the cities at the top of the *Scorecard* rankings and those near the bottom, and even the highest-scoring cities did not come close to earning the total possible points overall. The highest-ranking cities have developed community-wide strategies to improve efficiency but are still working to improve their implementation. Cities ranking lower are more likely to have focused primarily on energy efficiency in local government operations or are at an earlier stage in the development of community-wide strategies.

The *City Scorecard* has examined and scored efficiency activities only in the largest U.S. cities, but the *Scorecard* and related tools provide value to all local governments. First, the policies described in the *Scorecard*, particularly those called out as best practices, can be adopted, perhaps with modifications, by local governments of all sizes.

Second, in order to assist other communities with applying our methodology to assess their policies, ACEEE is developing a *Local Energy Efficiency Self-Scoring Tool*, planned for release in late 2013.

Energy efficiency is an abundant resource in every city. And for all cities there is significant room for expanding and improving their efficiency activities. This is true even for the best performing cities, as demonstrated by the top-scoring city, Boston, which achieved only a little more than three-quarters of the total possible points. What progress will cities make over the next few years? Will Boston retain the top spot or be surpassed? Which city will be most improved and what strategies will it use to get there? The next edition of the *City Scorecard* is planned for 2015, and we will have answers to these questions then.