# Mayors Leading the Way on Climate

## How Cities Large and Small are Taking Action

## ALLIANCE FOR A SUSTAINABLE FUTURE

a joint effort by The U.S. Conference of Mayors and the Center for Climate and Energy Solutions (C2ES)

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About The U.S. Conference of Mayors: The U.S. Conference of Mayors is the official nonpartisan organization of cities with populations of 30,000 or more. There are nearly 1,400 such cities in the country today, and each city is represented in the Conference by its chief elected official, the mayor. Learn more at www.usmayors.org.

About C2ES: The Center for Climate and Energy Solutions (C2ES) is an independent, nonpartisan, nonprofit organization working to forge practical solutions to climate change. Our mission is to advance strong policy and action to reduce greenhouse gas emissions, promote clean energy, and strengthen resilience to climate impacts. Learn more at www.c2es.org.

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# TABLE OF CONTENTS

# FOREWORD

In 2016, The U.S. Conference of Mayors and the Center for Climate and Energy Solutions formed the Alliance for a Sustainable Future to provide a platform for the public and private sectors to advance carbon reduction programs and sustainable development. As the planet continues to warm, both cities and businesses have begun to experience the real threat of stronger storms, rising sea levels, wildfires and drought, coastal flooding and extreme temperatures. The costs of these effects will be enormous, as recent fires in Los Angeles as well as Hurricanes Harvey and Irma prove. It is time to get even more serious about our need to address climate change.

During its first year, the Alliance has worked to establish a system for collecting data on what cities are doing in the arenas of low-carbon energy, alternative-fuel vehicles, and energy efficiency in buildings. This information will be useful to other cities and businesses as they develop and implement their own programs, and provide valuable data to policy makers at all levels of government. Many of these initiatives involve and require the cooperation between cities and the private sector. In fact, it is the premise of the Alliance that cooperation between business and the public sector is essential if the nation is to expedite carbon reduction and meet aggressive goals.

The results of the USCM/C2ES Survey on Sustainability is the second installment of information on city/private programs to reduce carbon and promote sustainable development. Our first report was released at the U.S. Conference of Mayors 85th Annual Meeting in Miami Beach, June 2017 and covered 66 cities. Today's release expands that list of cities surveyed to 102.

While the results are impressive, they also indicate the desire of cities of all sizes to do more to meet the challenges of clean energy and sustainable development. The Alliance will continue to collect information, identify progress and trends, promote policies to create a 21st century clean environment, and encourage public and private collaboration in the race to protect our climate.

We invite you to join us.

Javier Gonzales
Mayor of Santa Fe
Chair, Alliance for a Sustainable Future

Jackie Biskupski
Mayor of Salt Lake City
Vice Chair, Alliance for a Sustainable Future

Tom Cochran
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# EXECUTIVE SUMMARY

Leadership from mayors is becoming increasingly important in the fight against climate change. Cities are uniquely positioned to advance solutions in transportation, buildings, and renewable energy, and understanding their approaches and progress can guide decision-making and help shape markets. The sustainability questionnaire was designed to determine innovative practices in these policy areas, identify trends, and define opportunities where additional assistance may be needed. More than 100 cities across the United States participated in the questionnaire, and their responses provide a snapshot of local action and potential.

**Cities of all sizes are actively working to advance climate solutions.** Municipal procurement activities are a popular avenue to improve sustainability. This internal focus has the dual result of saving taxpayer dollars and directly influencing the clean energy marketplace.

- **About two-thirds of cities are procuring green fleet vehicles, have committed to purchase renewable electricity, and require efficient government buildings.**

- **Cities' role in the marketplace is not to be minimized: the responding cities alone spend more than $1.4 billion on electricity and procure more than 11,500 vehicles every year.**

They are also promoting sustainable choices and behaviors by citizens:

- **Nearly two-thirds of cities have a policy or program to install public charging stations for electric vehicles (EVs).**

- **Half of cities promote energy efficiency in commercial buildings and new residential buildings.**

- **Nearly half of cities have policies that help citizens and businesses choose renewable electricity options.**

**The full potential of local climate measures has yet to be realized.** Although some cities have fully implemented new practices, most cities are still in the early stages of adoption, which represents substantial opportunity to expand climate solutions to achieve deeper results in each city. Full adoption of alternative fuel vehicles and renewable electricity, for example, is currently marginal. Moreover, in each of these policy areas there is substantial near-term interest by cities that have yet to act.

- **More than half of cities are interested in partnering with other local governments and businesses to advance climate solutions.**

- **While 65 percent are already generating or using renewable electricity, another 26 percent of cities are considering purchasing renewables to power city operations in the next few years.**

- **A quarter of cities are considering policies to increase public and private charging stations for EVs.**

**There are distinct opportunities for the private sector and nonprofit community to expand engagement and support to local governments**. Cities across the United States are poised to partner with other local governments and businesses to advance climate solutions. About one-third of cities already are already partnering. Another half are considering this step in the next few years. Partnerships can play an important role in ensuring adequate resources, and local interest in this approach is encouraging. Increased collaboration can help more cities achieve more expansive implementation, a strategy the Alliance for a Sustainable Future is designed to facilitate. Future iterations of this questionnaire will track continued efforts as they unfold.

U.S. cities are comfortable with innovative policy, and this has led to a diverse local policy landscape: they are procuring all types of green vehicles, using a variety of renewable electricity products, establishing unique goals for municipal energy use, engaging in innovative partnerships, and adopting a number of different incentives to support public EV adoption.

# INTRODUCTION

The Alliance for a Sustainable Future is a collaborative effort between The U.S. Conference of Mayors and the Center for Climate and Energy Solutions (C2ES). The Alliance is made up of Mayors and businesses who are interested in working together to develop climate solutions and create more sustainable communities. The Alliance is chaired by Santa Fe Mayor Javier Gonzales along with Vice-Chair Salt Lake City Mayor Jackie Biskupski.

Through the Alliance, mayors were surveyed on their city's sustainability efforts in the areas of low-carbon transportation, energy efficiency in new and existing buildings, and renewable electricity. The goal of the ongoing questionnaire is to develop a baseline of city efforts, determine innovative practices in these areas, identify trends, and define areas where additional technical assistance may be needed.

The questionnaire was sent to all Mayors who represent cities with populations of 30,000 or more, approximately 1,400 cities in the United States. 102 cities from 35 states (see Appendix II) provided answers to all or part of the questionnaire. Responding cities represent a broad geography and range in size from 21,000 (Pleasantville, NJ) to 8.5 million (New York City), and together represent nearly 42 million Americans. The chart below represents how cities were divided by size and how many cities were in each group.

| City Population | Size Designation | Number of Responding Cities |
|---|---|---|
| Under 100,000 | Small | 40 |
| 100,000-250,000 | Medium | 28 |
| Greater than 250,000 | Large | 34 |
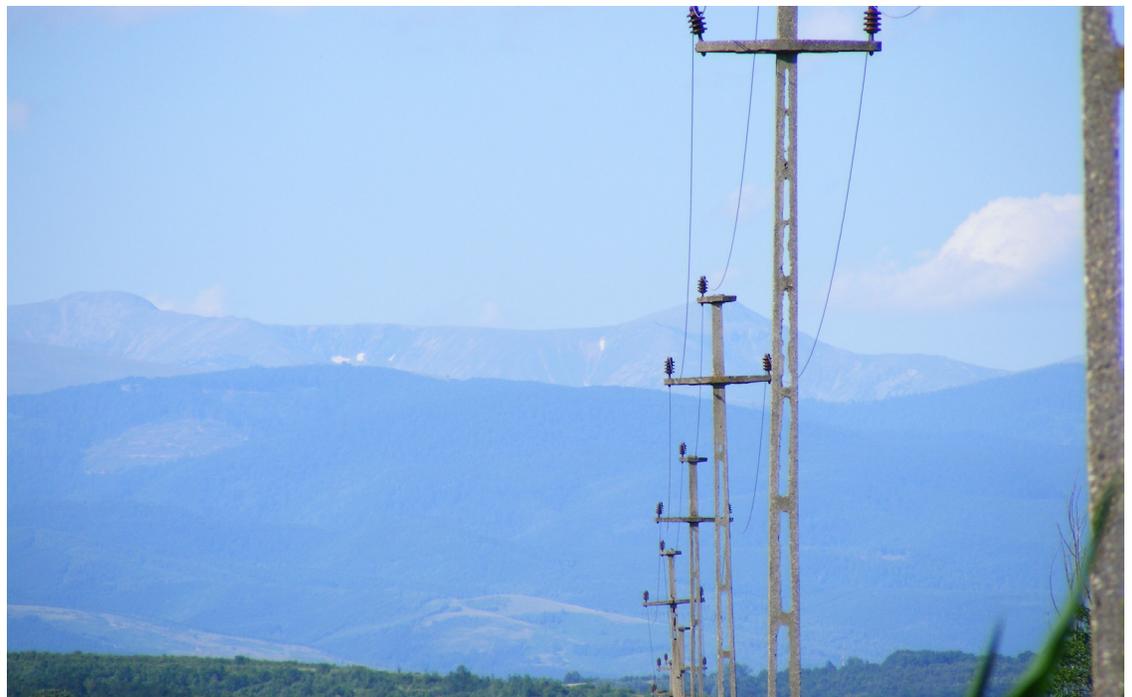
# RESULTS

## TRANSPORTATION

Vehicles contribute significantly to air pollution and greenhouse gas emissions. The survey questions on transportation focused on the numbers and types of vehicles that cities purchased and whether cities were purchasing alternative fuel/low-carbon vehicles for their municipal fleets, and whether they have programs and policies supporting electric vehicle deployment.

## MUNICIPAL FLEETS AND POLICY

**Approximately 80 cities estimated that they purchase over 4,800 passenger cars, nearly 3,700 light- duty vehicles, nearly 2,600 heavy-duty vehicles (excluding buses), and nearly 500 buses each year** (Figure 1). This means that over the next 5 years, these cities will procure more than 24,000 passenger cars, 18,000 light-duty vehicles, nearly 13,000 heavy-duty vehicles and over 2,000 buses.

Figure 1. Number of Vehicles Purchased Annually
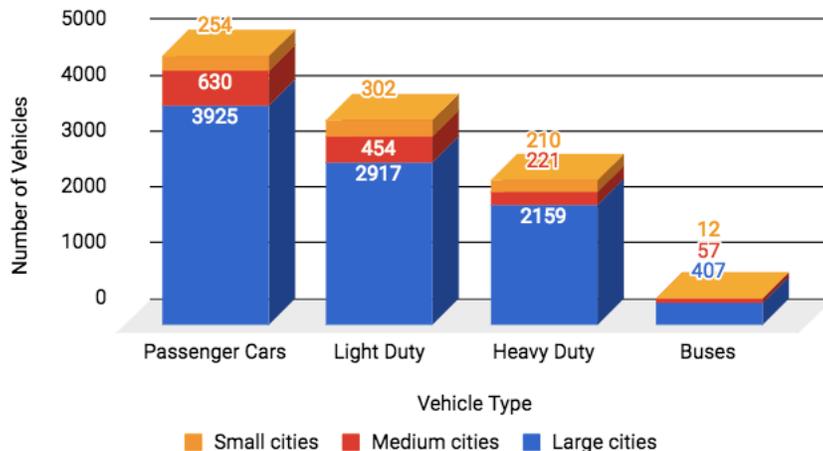
## Green Vehicle Procurement Policies

**Sixty-three out of 99 cities already purchase green vehicles, and an additional 23 cities are considering the practice for a total of 86 cities (87 percent).** When broken down by city size, you find that 74 percent of large cities, 59 percent of medium-sized cities, and 58 percent of small cities already purchase green vehicles (Figure 2).

### Figure 2. Cities That Purchase Green Vehicles
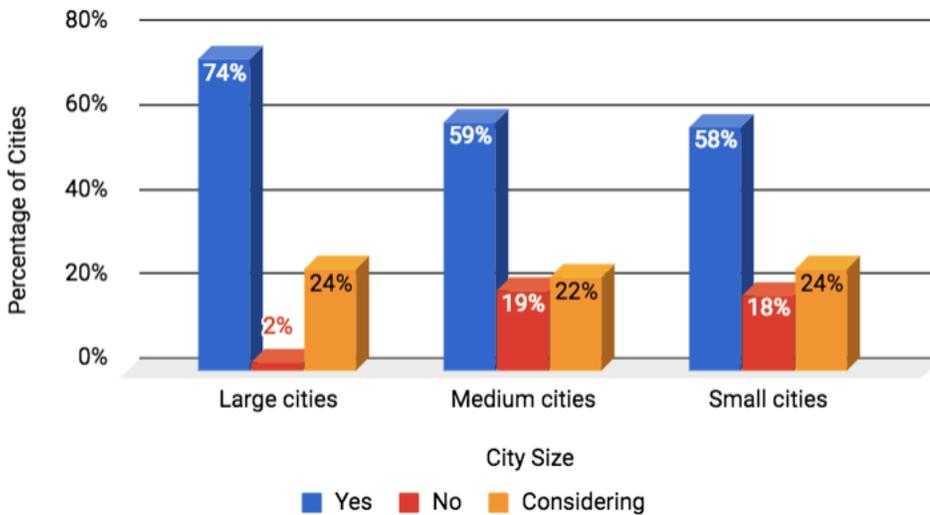


## Types of Green Vehicles Purchased

There are an expanding number of green and alternative fuel vehicles on the market, and cities are incorporating a broad array into their fleets:

- Hybrid Passenger Cars - 69 percent of cities (59 out of 86 respondents)

- Electric Passenger Cars - 51 percent of cities (43 out of 84 respondents)

- Natural Gas Heavy Duty (excluding buses) - 51 percent of cities (40 out of 79 respondents)

- Hybrid Light Duty - 47 percent of cities (39 out of 83 respondents)

- Biodiesel Heavy Duty - 45 percent of cities (34 out of 75 respondents)

- Natural Gas Buses - 23 percent of cities (16 out of 69 respondents)

- Biodiesel Buses - 21 percent  of cities (13 out of 62 respondents)

- Electric Light Duty - 20 percent  of cities (15 out of 74 respondents)

- Electric Buses - 14 percent  of cities (9 out of 64 respondents)

Regardless of city size, our survey found that the most commonly purchased type of green vehicles are hybrid passenger cars (69 percent), electric passenger vehicles (51 percent), and natural gas heavy duty vehicles (51 percent). It should also be noted that many cities purchase more than one type of green vehicle. Similarly, city size does not appear to play a large role in determining whether a city has purchased less common vehicles such as electric buses and light duty electric (Figure 3).

## Figure 3. Number of Cities Purchasing Green Vehicles
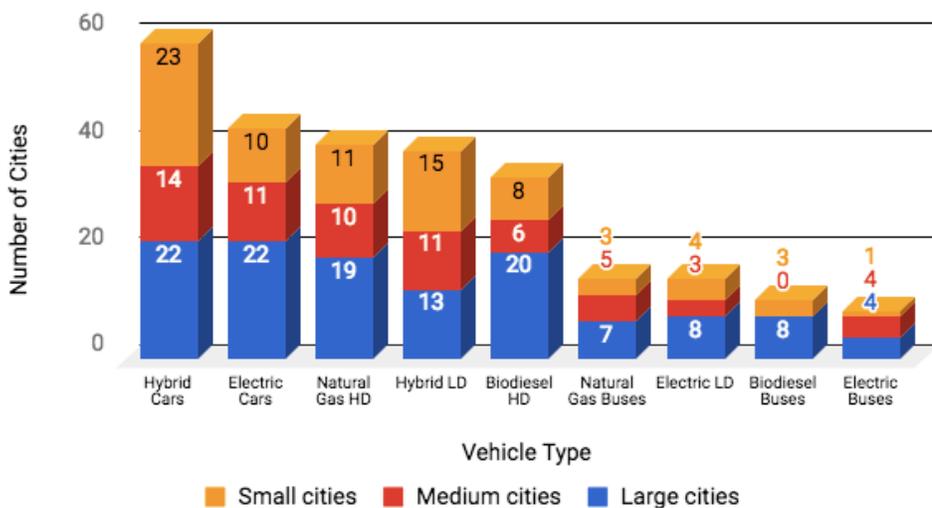


Cities were also asked about the types of alternative fuel vehicles in their fleets. Respondents indicated, for example, that biodiesel for heavy-duty vehicles (excluding buses) was used much more often than natural gas. However, natural gas was a far more popular option for buses as compared to biodiesel or electricity. An interesting regional note is that electric buses seem to be more popular in the Northeast and West as compared to the South and Midwest.

## Incentivizing Community Adoption of Electric Vehicles

Cities were asked about efforts to incentivize electric vehicle use. As fossil fuel-based vehicles contribute significantly to greenhouse gas emissions, many cities are looking to electric vehicles as an alternative. Cities realize that a key component to encourage the use of electric vehicles is to have electric vehicle charging stations available.

### Public Charging Stations
**63 percent (62 out of 99 respondents) have already installed or have a program regarding public charging stations for electric vehicles, with an additional 23 percent considering such action.** Only 14 percent of cities surveyed do not have a policy or program to install public charging stations and are not considering them; these are mostly smaller-sized cities.

### Private Charging Stations
**More than a third of the cities, 41 percent, have policies or programs that promote private infrastructure for electric vehicle charging stations, while an additional 25 percent are considering such action.** The remaining third (34 percent) do not have such policies and are not considering them.

## Figure 4. Cities That Promote Private Charging Stations
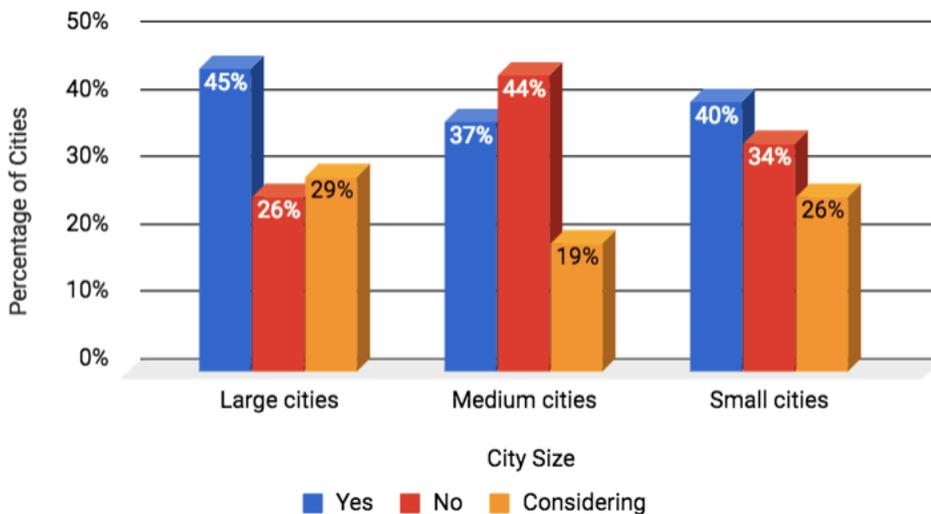


*Electric Vehicle Incentives for Citizens*

Twelve out of 100 respondents (12 percent) even offer incentives for citizens to purchase their own electric vehicles, with an additional 21 percent considering such a measure. It is interesting to note that 25 percent of Western cities surveyed offer such incentives while no Northeastern respondents do.

# ENERGY EFFICIENCY IN BUILDINGS

Nationally, building energy use is responsible for about 38 percent of U.S. carbon emissions, making this sector a major contributor to the carbon footprint of cities. Many cities realize that to make significant reductions to their carbon footprint, they need to address building codes and energy efficiency standards for new construction as well as existing buildings in the municipal, residential, and commercial sectors.

## Policies for Municipal Buildings

Many cities are taking action to improve the energy efficiency of municipal buildings. **68 percent of respondents already have policies that promote or require energy efficiency in new municipal buildings while 65 percent have policies for existing municipal buildings (Figures 5 and 6).**

*Energy Audits*

A popular measure is an energy audit, which assesses energy consumption to identify opportunities to reduce energy use and achieve financial savings. **Two-thirds of cities routinely conduct energy audits for municipal buildings and operations (66 out of 98 responding cities),** and an additional 17 percent are considering adopting the practice. Together, 84 percent of cities conduct or are considering conducting routine energy audits of their municipal buildings and operations.

## Policies for Commercial and Residential Buildings

Energy efficiency policies and incentives for commercial and residential buildings are slightly less common than policies for municipal buildings (Figures 5 and 6). **Of 98 responding cities, 49 percent have energy efficiency policies or incentives for existing commercial buildings and 47 percent for existing residential buildings.** These numbers increase slightly for new construction; 53 percent of cities have such policies for new commercial buildings (52 of 98 responding cities) and 51 percent for new residential buildings (50 of 97 responding cities). Participating cities reported policy steps including:

- Requiring LEED certification standards for buildings over a designated square footage

- Adhering to state mandates (e.g. the Massachusetts Stretch Code)

- Using the Property-Assessed Clean Energy (PACE) financing program

- Incorporating building efficiency standards into community climate action plans

*Energy Benchmarking*

By tracking and reporting the energy consumption of large buildings, more information is available to compare building performance, identify opportunities for improvement, and accurately calculate potential savings. This process, called energy benchmarking, provides the vital information for building owners to improve energy management strategies and for city leaders to ensure effective efficiency policy. **Out of 99 responding cities, an average of 28 percent of cities support or require energy benchmarking of commercial buildings (65 percent of large cities, 27 percent medium cities, 10 percent small), with an additional 19 percent considering implementing such a program.**

## Figure 5. Cities with Energy Efficient Existing Buidling Policies
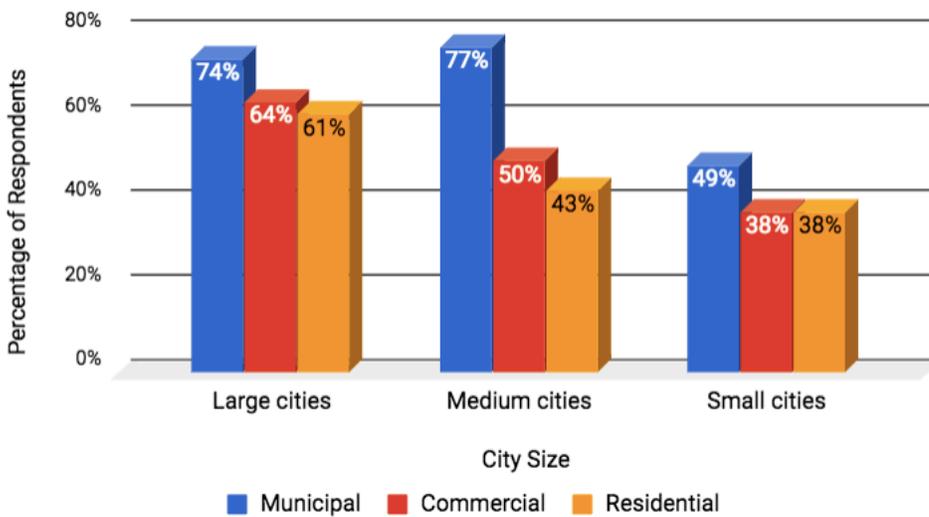


## Figure 6. Cities with Energy Efficient New Building Policies
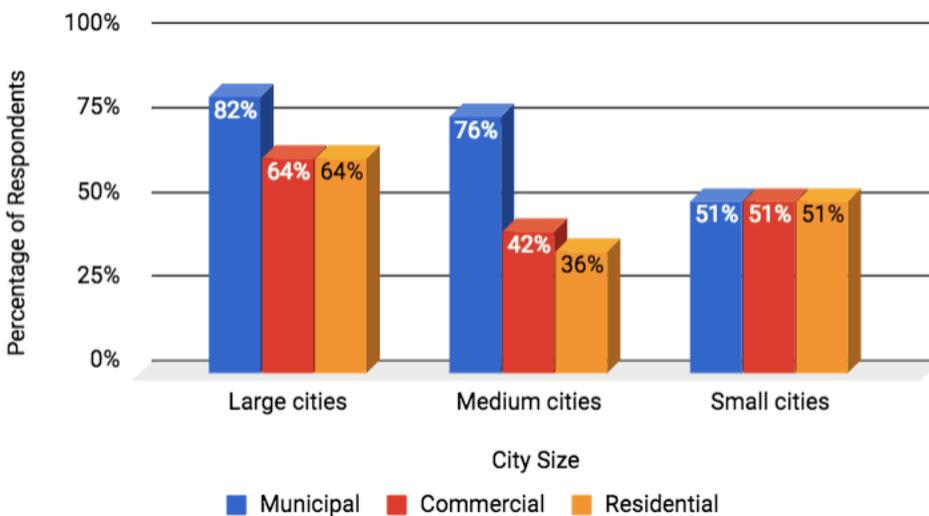
# RENEWABLE ELECTRICITY

Energy costs represent a substantial expense for local governments and the sources are an area of increasing interest for cities pursuing climate and sustainability goals. **Together, 71 responding cities spend more than $1.4 billion dollars every year on electricity for city operations.** This substantial market power makes information about local renewable energy policies, such as municipal and community wide targets and policies and procurement approaches, particularly interesting.

## Electricity for Municipal Operations

### *Renewable Energy Goals*
**More than half of responding cities have set a renewable energy standard or goal for municipal operations (53 out of 99 cities).** Targets tend to be more common in Western and Northeastern cities. While the target dates and ambition level of the goals vary, cities appear to share common strategies to meet them. Based on the responses, cities expect to achieve their goals largely through a mix of on-site renewable energy generation, renewable energy certificates (RECs), and power purchase agreements (PPAs). In some cases, cities plan to meet their goals by taking advantage of state policies that allow Community Choice Aggregation (CCA) and green tariff programs. Some cities reported their plans to incorporate energy efficiency measures to meet renewable goals, and to also consider the economic impacts of potential options in their decision-making.

### *Procuring Renewable Electricity*
Renewable energy procurement is even more common than goals,with **91 percent of cities either use renewable electricity now or are considering procuring it in the next few years (90 out of 99 responding cities). Nearly two-thirds of responding cities already generate or purchase renewable electricity to power city buildings or other city operations** (city size may be a factor, with 82 percent of large cities accessing renewables as compared to 65 percent of small and medium cities) (Figure 7). An additional 26 percent of cities are considering purchasing renewables to power city operations in the next few years. Of these interested cities, eighteen collectively spend more than $123 million on electricity annually.



Figure 7. Renewable Electricity Purchasing for Municipal Operations
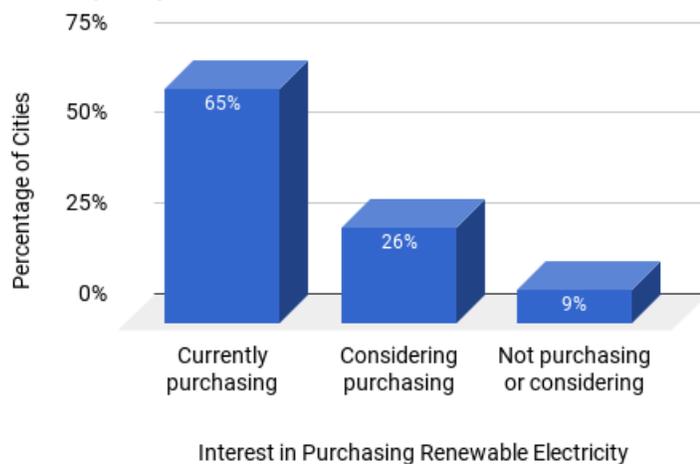
**Of the 63 cities that shared information on how much renewable electricity they use, nearly one of five cover more than 30 percent of their electricity needs with renewable sources (Figure 8).** Nearly half cover less than 10 percent of their municipal electricity needs with renewables. On the other hand, five participating cities cover all of their electricity needs through renewables. These findings indicate that although many cities use some renewable energy, it appears traditional energy sources still dominate.

## Figure 8. Renewable Electricity Use by City Governments
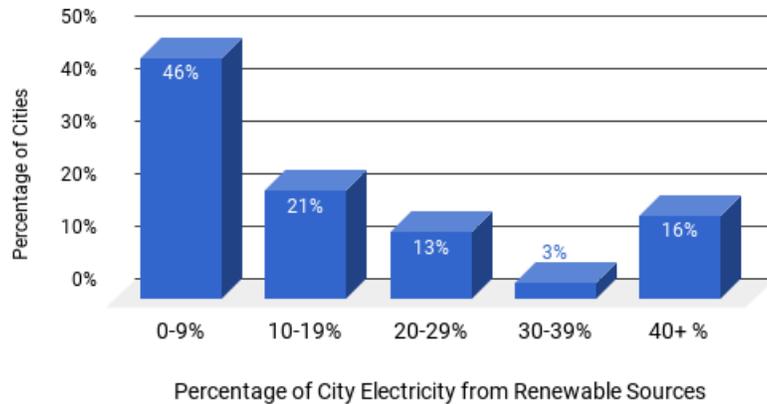


**The most common ways responding cities procure renewables are through power purchase agreements (32 cities), on-site government generation (31), and renewable energy credits (17) (Figure 9).** Less common strategies include community solar (6), community choice aggregation (4), and green tariffs (3). The relative scarcity of community choice aggregation and green tariff programs in particular makes sense, given these emerging models are only allowed in seven and ten states, respectively. However, if more states pass supporting policies, more cities may utilize these procurement options.

## Figure 9. Renewable Electricity Procurement Methods
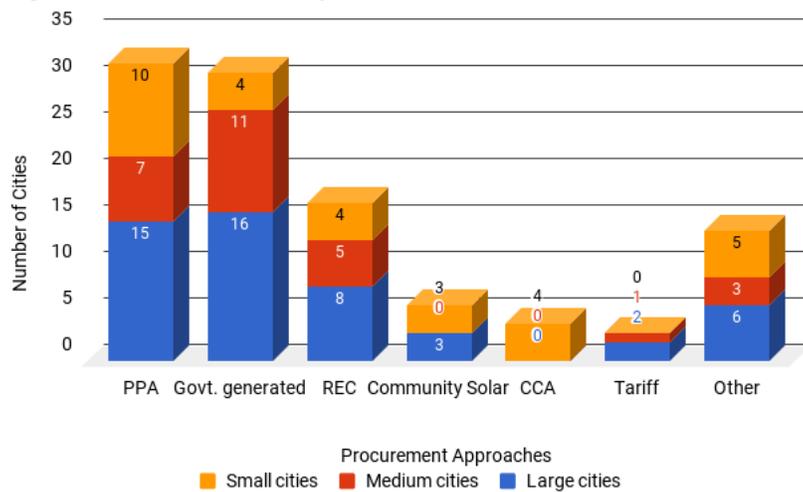
# Electricity for the Community

## *Promoting Renewable Electricity*

**45 percent of cities have policies or programs that help citizens and businesses choose renewable electricity options** (45 of 99 responding cities). Cities appear to prefer policies that promote adoption of decentralized solar capacity, but the responses include a variety of approaches. Examples of reported city policies and programs include:

- PACE programs
- Engaging and educating community groups wishing to buy solar
- Facilitating bulk purchases with utilities (e.g., facilitating Solarize volume-purchasing programs)
- Working with utilities to provide purchasing options and promoting those to residents
- Incentives and rebates for renewable energy installations
- Streamlining permitting and installation of residential solar

## *Renewable Energy Goals*

A number of cities have established goals to increase the amount of renewable energy available to residential and commercial members of the community. Although there are fewer cities with city-wide goals than supportive policy, targets exist in 36 percent of cities (36 of 99 responding cities). The target dates for these goals are typically later than the target dates cities set for their municipal renewable electricity goals. Several cities noted that plans to meet these goals are in development, and several others noted their reliance on and expectation that state renewable portfolio standards (RPS) and other state policies will ensure their communities can access more renewable energy in the future.

These results (Figure 10) demonstrate possible preference for policy action over targets and commitments, a preference that appears particularly pronounced in medium-sized cities.

## Figure 10. Renewable Energy Policy in U.S. Cities
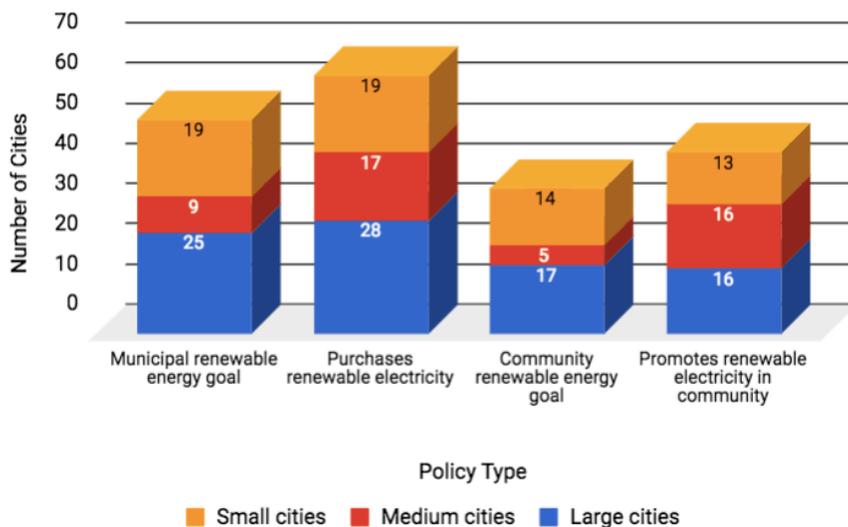
# STRATEGIES AND COLLABORATION TO SUPPORT ACTION

Cities have pursued a variety of strategies to advance energy and transportation solutions, including engaging other local governments, establishing public-private partnerships, tracking performance, and seeking out opportunities at higher levels of government. The survey responses shed some light on the prevalence of such strategies.

## Partnerships with Other Local Governments

**91 percent of cities are interested in or already partnering with other local governments** (87 of 96 responding cities). Although Northeastern and Western cities demonstrate greatest interest, interest is common across the country. In addition, while small cities reported the lowest level of existing partnership with other local governments, they reported the greatest interest in new partnerships as shown in Figure 11.



Figure 11. Interest in Partnering With Other Local Governments to Advance Climate Solutions
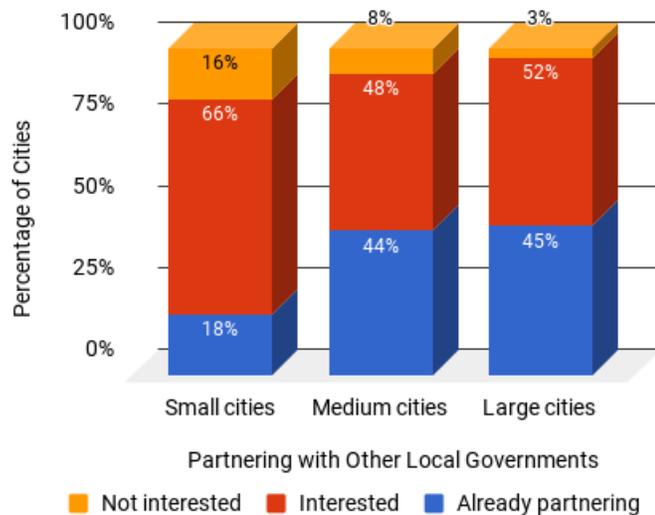
There are many avenues for partnerships at the national, regional, and local level. For example, the responding cities noted their participation in:

- Aggregated procurement efforts such as the multi-city Electric Vehicle Request for Information
- Regional networks and coalitions to: develop new energy options (such as community choice programs), implement transportation plans, and create climate plans
- National city-city networks and implementation-focused programs with city cohorts

## Partnerships with Businesses

**85 percent of cities are interested in or already partnering with the business community to advance climate solutions in the areas of electricity, buildings, and transportation** (82 of 96 responding cities).

## Figure 12. Interest in Partnering with Businesses to Advance Climate Solutions
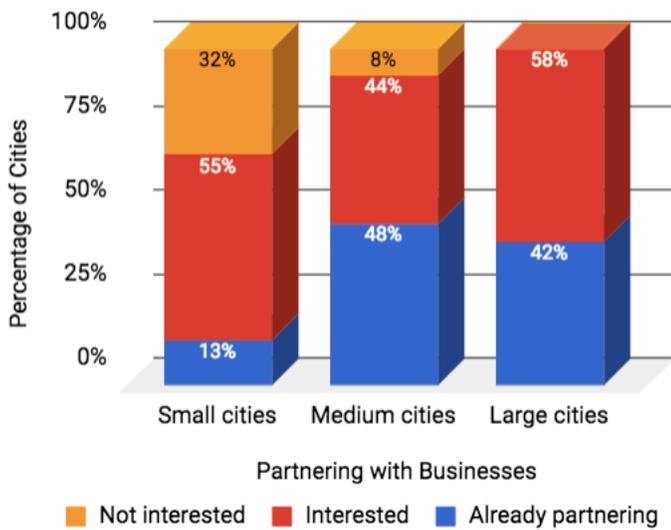


As shown in Figure 12, large- and medium-sized cities are more inclined than small cities to have already established partnerships with the private sector to advance climate solutions. However, a majority of small cities are interested in partnering with the business community.

- Entering joint agreements with utilities to support energy programs

- Offering sustainability challenges, certifications, and awards for businesses

- Engaging the private sector to understand feasibility and develop new ordinances and plans (e.g., new buildings codes, transportation plans, community energy visions)

- Participating in local commissions with public and private representatives

- Performance contracting to improve municipal operations

- Establishing partnerships to provide services to government (e.g., city employee bike share program)

- Providing technical assistance for local businesses

### *Partnerships with Utilities*

The survey also asked about cities' experiences collaborating with their utilities in the areas of renewable electricity, energy efficiency, and low-carbon transportation. Respondents rated their partnership experiences on a scale of 1 (poor) to 5 (excellent).

**On average, cities' most positive partnerships with utilities are to promote energy efficiency, with an average rating of 3.6 out of 5 (Figure 13).**

Cities reported an average rating of 2.9 out of 5 for working with utilities to promote renewable energy.

Partnerships with utilities to promote electric vehicles and low-carbon transportation drew an average rating of 3.0 out 5. However, large cities report better partnerships with their utilities than their small- and medium-sized counterparts (on average), a slightly different pattern than the similar responses for efficiency and renewables.

Figure 13. Strength of City Partnerships with Utilities in Promoting Sustainability
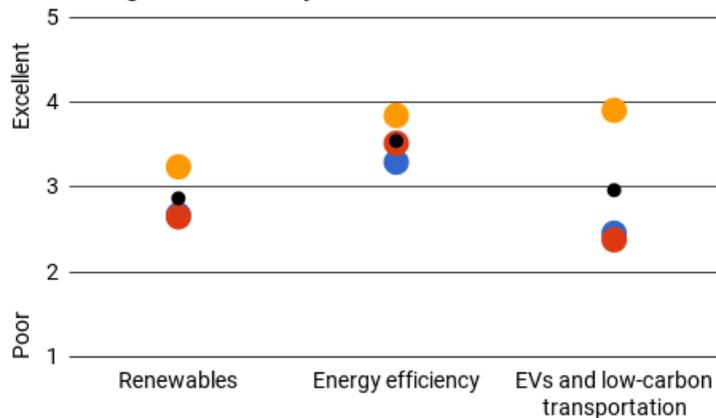
## Tracking Greenhouse Gas Emissions

Cities were also asked about practices to inventory greenhouse gas emissions (GHG). **Currently, 69 percent of cities track their emissions.** Among cities that do measure their GHG emissions, the most common tool used is the ICLEI ClearPath tool with a 46 percent usage rate (30 of 65 cities that measure their GHG emissions). Figure 14 shows that a slight majority of cities choose other options such as the EPA Local Greenhouse Gas Inventory Tool, the C40 City Inventory Reporting and Information System (CIRIS), and other Excel-based tools created by private sector partners, sometimes specifically for the city.

Figure 14. Preferred Greenhouse Gas Inventory Tools
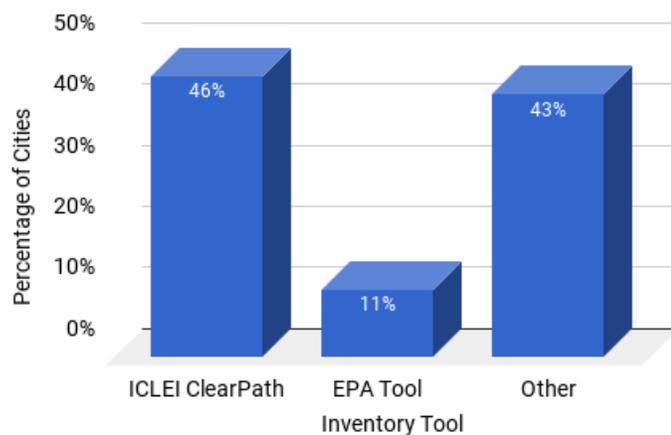
Conversely, 3 out of 10 cities do not track greenhouse gas emissions; and this appears more likely among the smaller cities, as shown in Figure 15.

## Figure 15. Cities That Do Not Measure GHG Emissions
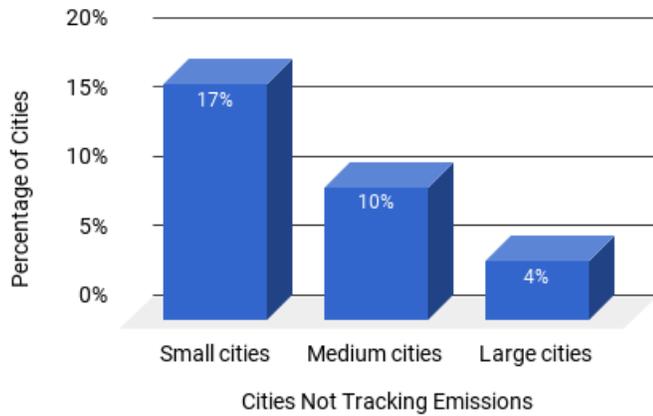


## Volkswagen Settlement

As a result of Clean Air Act settlement with the U.S. EPA, Volkswagen will spend $4.7 billion to mitigate the pollution caused by their cars as well as investing in green vehicle technology. This amount will be split between two investment programs that states, cities, and tribes can use to expand alternative fuel vehicle projects and access to zero emission vehicles (ZEVs) and infrastructure. Although there is no guarantee that funding proposals and outreach will be successful, a significant number of respondents, especially from larger cities (85 percent), are pursuing these funds (Figure 16).

## Figure 16. Percentage of Cities Pursuing Action with Volkswagen
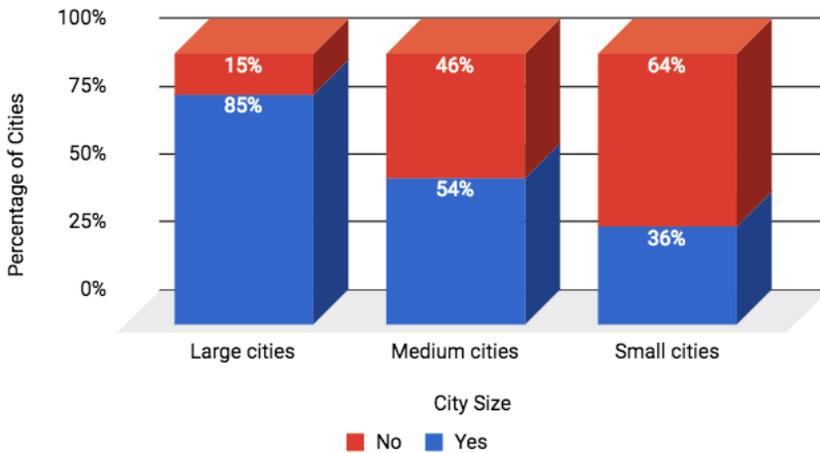
# DISCUSSION

### *Transportation*

The results show that alternative fuel vehicles have become familiar staples for municipal fleets. Many fleets have incorporated gasoline-powered hybrids and natural gas or diesel hybrid buses (in place of diesel-powered transit buses). Cities are also tapping into the increasingly affordable and diverse electric vehicle (EV) market, especially among passenger vehicles and transit buses. Looking ahead, electric school buses are expected on the market in 2018 and equipment manufacturers are also developing electrified port vehicles, such as forklifts and airport terminal trucks, which may become more common.

In terms of supporting low-carbon transportation in the community, the results show that local governments are pursuing a variety of policy measures to encourage EV adoption by citizens. Respondents to the survey demonstrated a clear preference for facilitating the development of a charging network, an effort that will help reduce EV range anxiety by prospective buyers. Although fewer cities reported offering EV incentives, such measures can also encourage drivers to go electric. These policies can include single-occupant access to HOV lanes, rebates for residential charging installation, time-of-use rates, and purchase incentives.

### *Energy Efficient Buildings*

With regards to energy efficiency policies, there are several notable trends. The first being that municipal energy efficiency policies for both new and existing buildings are the most popular, having the largest shares overall. Similarly, more large cities have energy efficiency policies than medium and small cities across the board. Although this might not be surprising, it is still remarkable that many small cities hold policies at levels comparable or more than their medium city counterparts. This indicates that city size is not as strongly linked to passing energy efficiency legislation as may be previously believed. This is significant as passing energy efficiency legislation is one of the fastest and easiest ways for cities to save money and reduce greenhouse gas emissions.

### *Renewable Electricity*

In June 2017 The U.S. Conference of Mayors adopted a resolution in support of cities establishing a community-wide target of powering their communities with 100 percent clean, renewable energy by 2035. Given the current level of renewable energy adoption reported by the participating cities, there is much work to do if this is to become common practice. While the majority of cities power some portion of their operations with renewables, the proportion of renewable to non-renewable energy sources remains weighted toward the latter.

Results also show that cities have a significant amount of purchasing power, and coordinated efforts or shifts in demand from U.S. cities will be of interest to energy utilities and providers. The cities surveyed reported combined annual electricity expenditures in excess of $1.4 billion.  While some of these dollars are already going toward renewable electricity purchases, the ambitious renewable energy goals of a broad group of cities points to greater procurement expectations. For example, eighteen of the cities considering entering the renewable electricity market in the next few years spend an annual $123.5 million combined; presumably, some of these dollars will be funneled to new renewable purchases.

In addition, many cities have some community-wide policies to promote renewables, but it is likely that most cities will only be able to achieve far-reaching goals through partnerships with utilities and energy providers and by leveraging more aggressive state policy. Further research could explore whether the presence of state renewable energy standards positively influence city relationships with utilities or enhance cities'  abilities to achieve their renewable energy goals.

## *Strategies and Collaboration to Support Action*

Notably, participating cities report a high level of interest in engaging partners, a strategy that may be central in increasing adoption and accelerating implementation with limited resources. In medium and large cities, nearly half already partner, and the majority of the rest are interested. Although existing partnerships are less common among small cities, the number of small cities that are interested tracks with the larger cities. More resources may be needed to support partnerships by small cities.

Another strategy has emerged as a best practice: tracking greenhouse gas emissions to identify opportunities and assess progress. Robust and transparent tracking is important to local decision-makers, and it is increasingly important to stakeholders involved in international climate negotiations who are interested in the mitigation contributions of sub-national actors. The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) standards will likely play a central role in ensuring city inventories are complete and comparable to others around the world. Inventories that follow the GPC are a requirement for cities participating in the Global Covenant of Mayors, an emerging international tracking platform. Both ClearPath and the EPA Local Greenhouse Gas Inventory Tool adhere to GPC standards, and many cities using other tools noted that their process follows them as well.

It should be noted that seven responding cities rely on the EPA Local Greenhouse Gas Inventory Tool, which in 2017 has been moved to an archived EPA website where continued technical support under the Trump administration is unlikely. These cities may choose to switch to a new tracking tool in the future.

## *Emerging Trends*

The results show the significant leadership occurring at the city level to promote building energy efficiency, renewables, and low-carbon transportation. As shown in Figure 17, policies and programs that track and improve municipal operations and purchasing decisions demonstrate widespread popularity among cities. And across the board, cities are testing a variety of new policies like energy benchmarking, innovative renewable procurement approaches, and incentivizing alternative fuel vehicle adoption.

## Figure 17. Current Top Policies and Programs
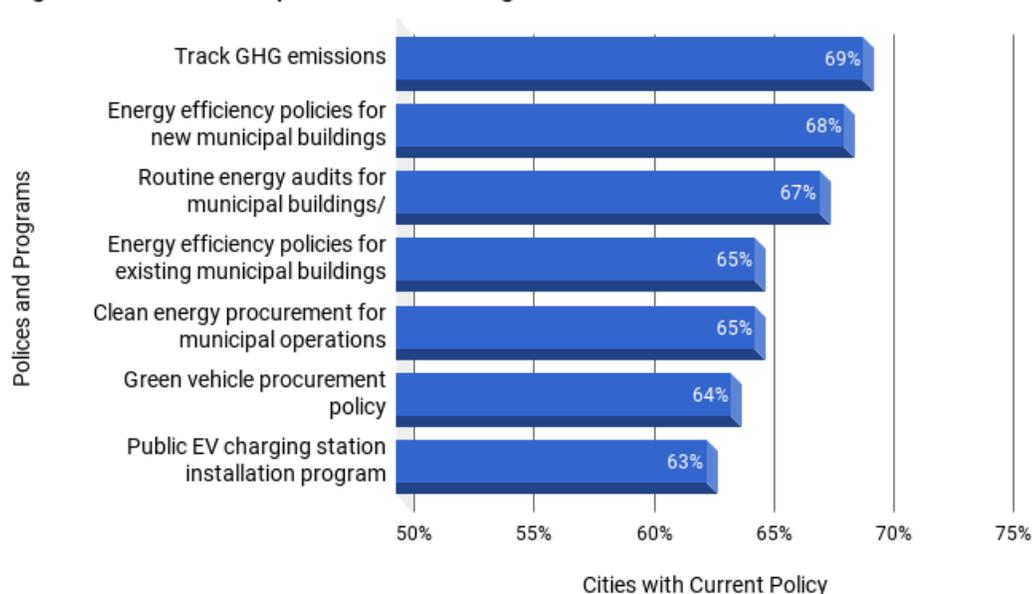
The responses also shed light on the direction of local policy. Many cities have adopted sustainability policies, and a large number of other cities are considering such action. By combining the cities that have adopted policies with those that are considering action the potential for greater deployment becomes clear.  Figure 18 offers a glimpse into the potential future of local policy, showing the top policies and programs that cities are currently pursuing or considering. In each of these policy areas there is substantial interest by cities that have yet to act, most notably in partnering with other local governments and the private sector to advance climate solutions. These findings indicate distinct opportunities for the private sector and nonprofit community to expand engagement and support to local governments.

Of further note to potential collaborators are the findings that show the full potential of local measures has yet to be realized. Although some cities have fully implemented new practices, most cities are still in the early stages of adoption, which represents substantial opportunity to expand climate solutions to achieve deeper results in each city.

Figure 18. Top Policies and Programs In Place or Under Consideration
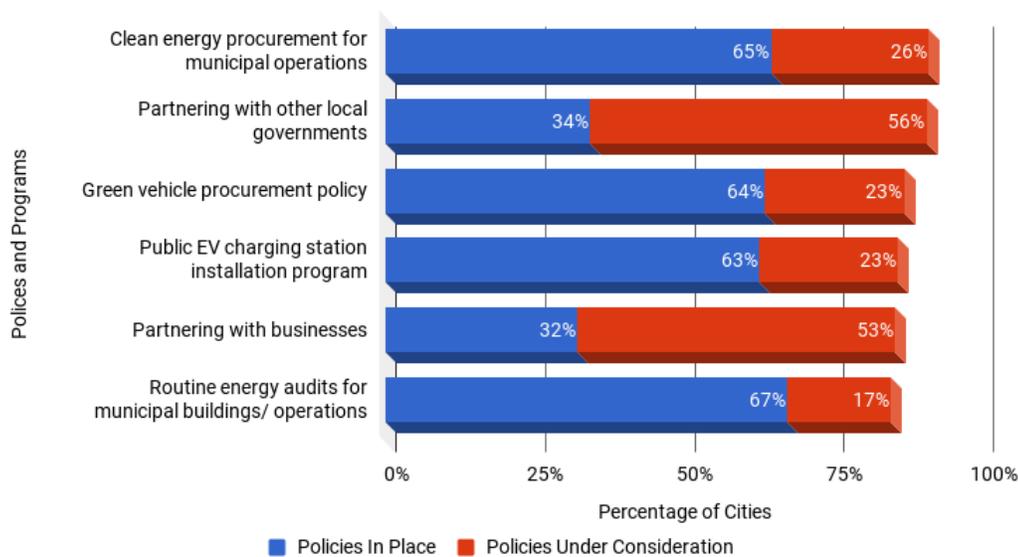
# CONCLUSION

This report demonstrates that Mayors, and the cities they represent, are stepping forward to reduce their greenhouse gas emissions through significant efforts at the local level. By purchasing alternative fuel fleets, establishing policies that increase the energy efficiency of new and existing buildings, and increasing the use of renewable electricity, cities of all sizes are actively working to advance climate solutions.

But what is even more significant, is that this is just the beginning. As the need for transformative climate policy and the benefits of action shift into greater focus, survey responses show the full potential of local measures has yet to be realized. When one looks at both the cities who already implement these programs and policies and those who are considering it, there is tremendous potential for growth. Furthermore, although some cities have fully implemented new practices, many cities are still in the early stages of adoption. These findings indicate there is substantial opportunity to expand climate solutions to new cities and achieve deeper results in each city, and continued implementation could significantly contribute to the reduction of the nation's carbon footprint.

For example, most cities in the United States cover a small portion of their activities with renewable electricity. If many more mayors expect to run city operations completely on renewables, they will need to access adequately-sized procurement contracts with utilities and energy providers or invest in economical government-owned generation capacity. Furthermore, if city governments intend to ensure their communities are using primarily renewable energy, then significantly more clean electricity will be needed to satisfy the demand. Local and state policymakers and energy providers have a central role to play in determining whether this will be possible.

The questionnaire results point to the potential for enhanced coordination and partnerships with the private sector to accelerate policy implementation in the community. Roughly half of the responding cities have adopted policy to promote energy efficiency in new and existing commercial and residential buildings, and to increase access to renewable energy options. Nearly two-thirds of cities have a policy or program to install public charging stations for EVs and more than one-third have policy to promote installation of private charging stations. Key partners in accelerating adoption of climate solutions include electric utilities, energy service companies, financial institutions, transportation companies, and firms that manage and improve the built environment.

The survey results show that many cities are poised to adopt new practices and develop new partnerships to advance solutions in the next few years. As cities implement and demonstrate the success of such policies, adoption by other cities is likely to follow, especially if they have access to supportive resources. Partnerships can play an important role in ensuring adequate resources, and local interest in this approach is encouraging. Increased collaboration can help more cities achieve more expansive implementation, a strategy the Alliance for a Sustainable Future is designed to facilitate. Future iterations of this questionnaire will track continued efforts as they unfold.

# APPENDIX I: METHODOLOGY

An invitation to complete the online questionnaire was originally emailed to approximately 80 Mayors who serve in leadership roles for The U.S. Conference of Mayors in May 2017  However, when the United States announced its intention to pull out of the Paris Climate Accord on June 1, the questionnaire was sent to all cities with populations of 30,000 or more, approximately 1,400 cities. The preliminary results of the original respondents were released at the Conference of Mayors Annual Meeting in June 2017. The questionnaire, however, remained open to allow more cities to respond.

By August 30, 102 cities from 35 states (see Appendix II) had provided answers to all or part of the questionnaire. Responding cities represent a broad geography and range in size from 21,000 (Pleasantville, NJ) to 8.5 million (New York City), and together represent nearly 42 million Americans.  This questionnaire will remain open to continue monitoring city efforts towards increasing their energy efficiency and sustainability efforts.

To calculate participation percentages, total responses for each question were used as the denominator, rather than the entire 102 cities that completed the questionnaire. This choice removes non-answers (blank responses) from the response pool. Accordingly, each percentage represents the set of cities that directly and intentionally answered the relevant question. For example, 98 of the 102 participating cities answered the question "Has the city engaged state officials with investment ideas for the VW settlement dollars?", 53 of them affirmatively. Therefore, we divided 53 by 98 to determine that 54 percent of participating cities had engaged with state officials for the VW settlement dollars.

Cities were also grouped based on population size. This information attempts to identify differences in successful policy implementation due to different available financial and staffing resources. The limits used to group responding cities were as follows: Small: ›100,000 citizens, Medium: 100,000-250,000 citizens, and Large: ‹250,000 citizens. Using these delineations, 40 cities qualify as "small" and represent 2.4 million citizens, while the 28  "medium" cities represent 4.6 million citizens, and the 34 "large" cities cover 34.8 million residents.

Regional groupings were also made to identify policy popularity differences across the United States. The U.S. Census Bureau's regional divisions serve as the basis for dividing the nation into four geographical sections: the Northeast, South, Midwest, and West . The Northeast region consists of the following 9 states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania. The South covers 16 states and the District and Columbia: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, and Texas. The Midwest moniker represents 12 states:  Indiana, Illinois,  Michigan, Ohio, Wisconsin, Iowa, Nebraska,  Kansas, North Dakota, Minnesota, South Dakota, Missouri. Lastly, the following 13 states are included under the West: Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, Wyoming,  Alaska,  California, Hawaii, Oregon, and Washington.

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[1]https://www2.census.gov/geo/pdfs/maps/reference/us_regdiv.pdf

# APPENDIX II: PARTICIPATING CITIES

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|---|---|---|---|---|
| Arlington, TX | Dallas, TX | Las Cruces, NM | Normal, IL | Santa Barbara, CA |
| Atlanta, GA | Dayton, OH | Las Vegas, NV | North Port, FL | Santa Fe, NM |
| Aurora, IL | Denver, CO | Lima, OH | Olathe, KS | Santa Monica, CA |
| Austin, TX | Des Moines, IA | Little Rock, AR | Orlando, FL | Schenectady, NY |
| Baltimore, MD | Dubuque, IA | Long Beach, CA | Pembroke Pines, FL | Seattle, WA |
| Birmingham | Durham, NC | Los Angeles, CA | Phoenix, AZ | Sheboygan, WI |
| Boise, ID | Eden Prairie, MN | Louisville, KY | Pinellas Park, FL | South Bend, IN |
| Bonita Springs, FL | Elizabeth, NJ | Macon, GA | Plano, TX | Tacoma, WA |
| Boston, MA | Encinitas, CA | Madison, WI | Pleasantville, NJ | Tempe |
| Burnsville, MN | Everett, MA | Mesa, AZ | Portland, OR | Toledo, OH |
| Carmel, IN | Fremont, CA | Miami Beach, FL | Redmond, WA | Torrance, CA |
| Charleston, SC | Gary, IN | Mooresville, NC | Reno, NV | Walnut Creek, CA |
| Chicago, IL | Gresham, OR | Nashville, TN | Richmond, VA | Waterbury, CT |
| Chula Vista, CA | Hallandale Beach, FL | New Bedford, MA | Riverbank, CA | Waukesha, WI |
| Clarksville, TN | Hanover Park, IL | New Orleans, LA | Rochester Hills, MI | Wellington, FL |
| Clifton, NJ | Henderson, NV | New York, NY | Rochester, NY | West Hollywood, CA |
| College Park, MD | Honolulu, HI | Newark, CA | Saint Louis, MO | West Palm Beach, FL |
| Columbia, MO | Houston, TX | Newark, NJ | Salt Lake City, UT | West Sacramento, CA |
| Columbus, OH | Independence, MO | Newport News, VA | San Bruno, CA | Westland, MI |
| Corvallis, OR | Kansas City, MO | Newton, MA | San Francisco, CA | Weston, FL |
| | Knoxville, TN | | San Marcos, TX | |