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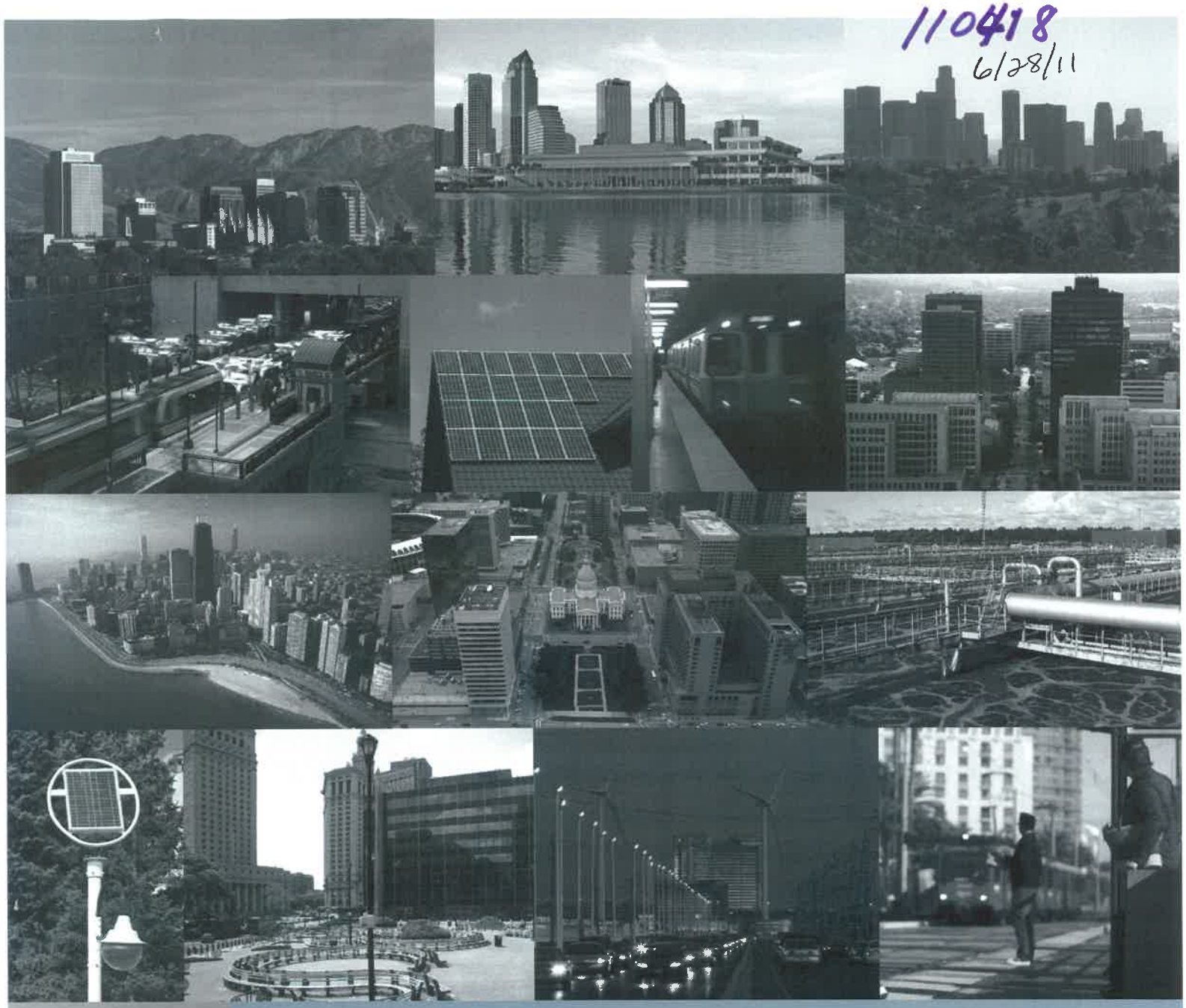
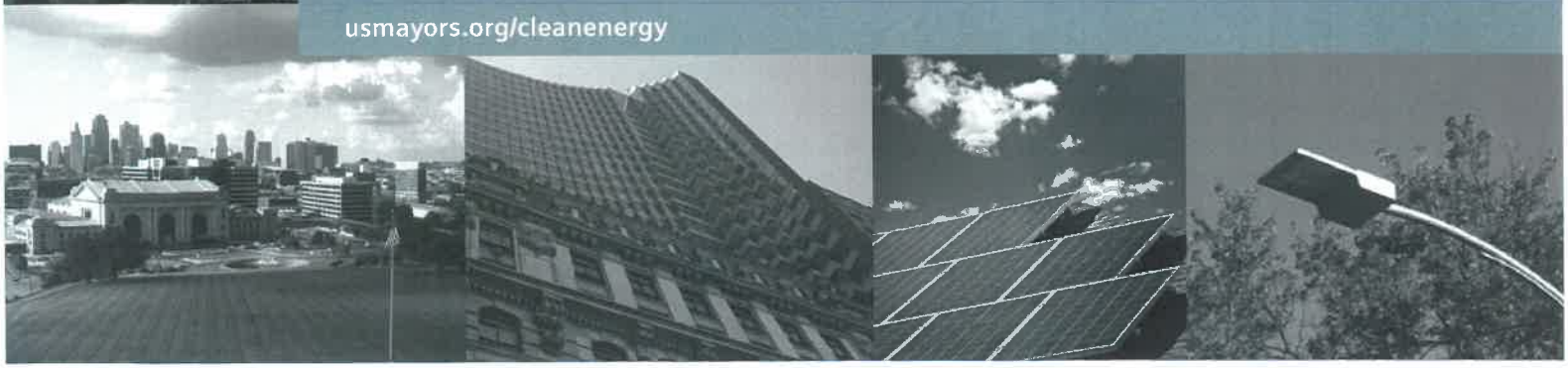


The United States Conference of Mayors

Clean Energy Solutions for America's Cities

A summary of survey results prepared by GlobeScan Incorporated and sponsored by Siemens

usmayors.org/cleanenergy



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The U.S. Conference of Mayors is the official nonpartisan organization of cities with populations of 30,000 or more. There are more than 1,200 such cities in the country today, each represented in the Conference by its chief elected official, the Mayor.

This report was prepared for The U.S. Conference of Mayors and sponsored by Siemens based on survey research conducted in the Spring of 2011 by GlobeScan in cooperation with the Conference and Siemens. We would like to thank all those who participated in the survey for their valuable insights and time.

Special thanks to our sponsor, Siemens.

Siemens is working to provide solutions to today's urbanization challenges, all with an eye to minimizing impact to the environment. To this end, Siemens has been involved in the development and publishing of several key studies on urbanization and sustainable infrastructure. For more information about Siemens and its efforts to address urban sustainability challenges, please visit **www.usa.siemens.com/sustainablecities**

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Foreword

Tom Cochran
CEO and Executive Director
The United States
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In recent years, national and even global leadership on energy and climate protection has come to define mayors and their priorities. We know that their continued leadership is essential to addressing these issues.

This survey, for its part, adds further to the record of mayoral accomplishments, often driven by the commitment of more than 1,050 mayors who have joined as signatories to the Conference's Mayors Climate Protection Agreement. To accelerate local efforts to meet these commitments, the Conference of Mayors championed new partnerships and programs to support mayors and their energy/climate initiatives, including the Energy Efficiency and Conservation Block Grants program.

As the nation seeks greater energy independence and energy security, mayors are certain that strong local action—from deploying new clean energy technologies and efficiency measures to raising public awareness about the benefits of these investments—is needed to confront these challenges successfully. Mayors also know that the global green revolution now underway demands more leadership, greater innovation, and even stronger public-private partnerships to create millions of new green jobs.

The unprecedented mayoral response to this survey—396 mayors in all 50 states, representing about 74 million people—indicates a very high level of interest and commitment to clean energy technology and energy efficiency solutions in the nation's cities. Its results should also remind readers that there is a substantial body of work now underway in cities that positions the nation as a leader on clean energy technologies.

Key Findings

- Despite challenging economic conditions, three in four cities (75%) expect their deployment of clean energy technologies to increase over the next five years.

- Cities identify financial constraints as the most significant challenge to improving energy efficiency and conservation, and developing new renewable energy supplies.

- LED and other efficient lighting (76%), low-energy building technologies (68%), and solar systems to generate electricity (46%) are the top three choices among mayors as the most promising technologies for reducing energy use and carbon emissions.

- Energy Efficiency and Conservation Block Grants (EECBG) are shown to have multiple benefits for cities, from helping to cope with higher gas prices to deploying new energy technologies and efficiency measures, now and in the future.

- Mayors point to the economic benefits of clean energy solutions as key drivers of their energy strategies.

- For one in three cities, adapting to climate change is already an element of their capital planning and/or capital improvement programs.

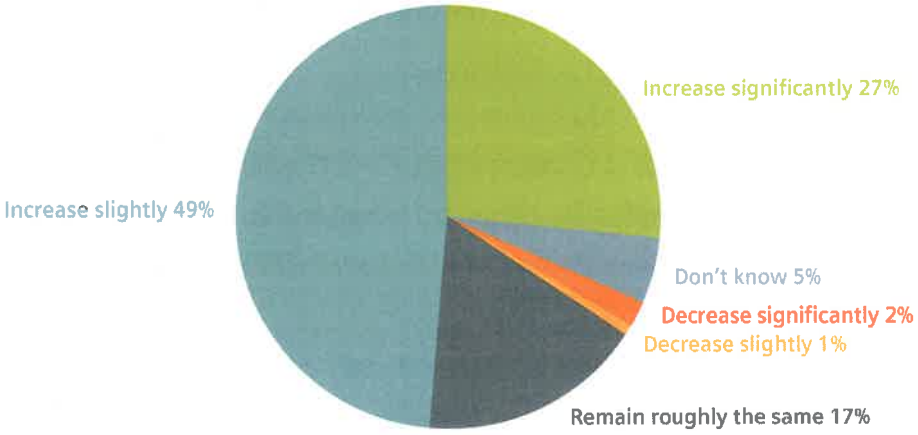
- One-quarter of all cities have already set targets for the use of renewable energy.

Survey Results

Most mayors expect their cities' deployments of new energy technologies to increase over the next five years, despite today's economic climate. Three in four cities (75%) say their use of new energy technologies is likely to grow, with more than one-quarter (27%) of the 396 cities in this survey expecting the increase to be "significant". Cities in the Northeast and South anticipate faster growth, but there is little difference across cities—small and large cities alike expect to be deploying more clean technology in five years than they do currently. Only three percent of cities expect their use of new energy technologies to decrease during this period.

Deployments of New Energy Technologies are Expected to...

(percentage of cities)

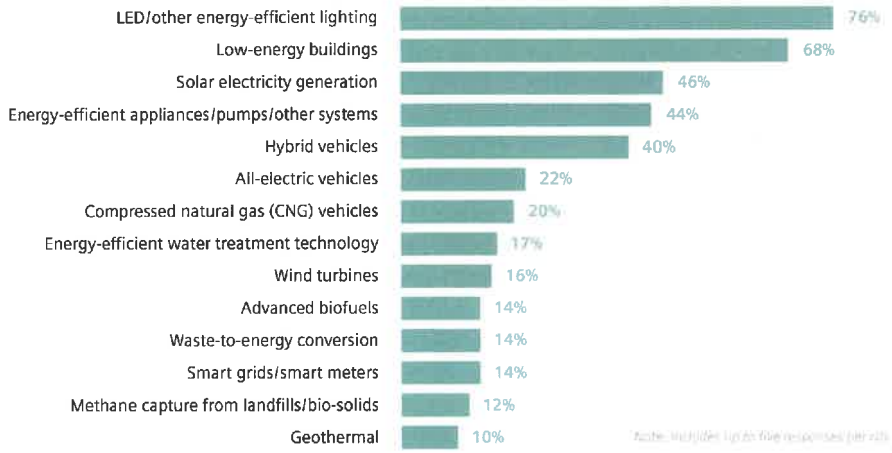


LED/efficient lighting is the top choice among mayors as the most promising of new technologies for reducing energy use and carbon emissions. Three-quarters of all cities (76%) in the survey place LED/efficient lighting technologies at the top of the list of most promising new technologies to advance these priorities. The prominence of lighting technologies correlates directly to local experience with these technologies, with the survey showing that a substantial majority of cities (85%) already deploy LED lighting, findings that suggest wider use of this technology by cities in the near future.

After lighting, two in three cities (68%) choose low-energy building technologies as the next most promising opportunity to curb energy use and carbon emissions. Other technologies named as most promising include: solar systems to generate electricity (46%), energy-efficient appliances, pumps, and other systems (44%), and hybrid vehicles (40%). Of these selections, only solar electricity generation ranks higher than actual city experience in deploying it.

Most Promising Technologies for Reducing Energy Use and Carbon Emissions

(percentage of cities)

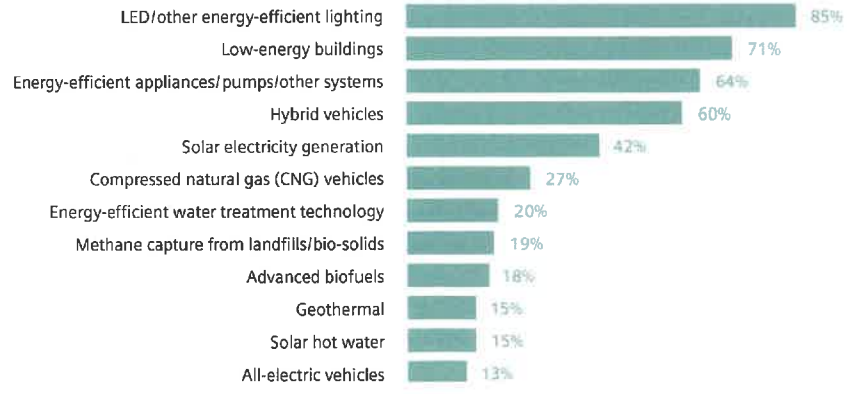


There are regional differences in how energy technologies are viewed. Cities in the West and Northeast are most likely to see solar electricity potential. Midwestern cities are less optimistic about alternative vehicles (all-electric or compressed natural gas vehicles, though not hybrids), but more positive about wind turbines and geothermal technology. While cogeneration technology (simultaneously generating electricity and useful heat) is rarely identified as a promising technology by cities overall, it is viewed more favorably in the Northeast.

To assess further city views of promising technologies, it is helpful to see what technologies cities have deployed previously. In addition to the wide adoption of LED lighting (85% of cities), cities have invested in low-energy building technologies for public buildings (71%), energy-efficient appliances, pumps, or other systems (64%), and hybrid vehicles (60%).

Technologies Already Deployed by Cities

(percentage of cities)

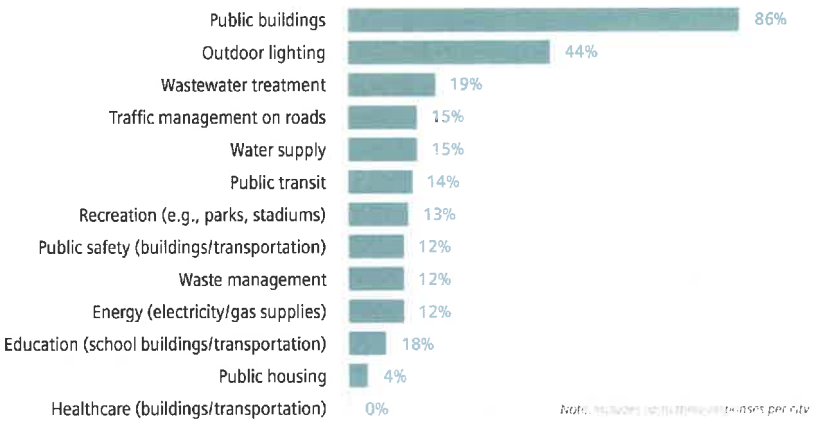


Public building improvements are seen as a priority for improving the energy efficiency of city infrastructure. Despite challenging economic times, cities continue to explore and implement technologies to improve the energy efficiency of city assets and services, especially municipally-owned buildings. A sizable majority of cities (86%) are directing their energy efficiency efforts to public buildings, with nearly half of the cities (44%) acting to improve the efficiency of outdoor lighting, and one in five (19%) making the energy efficiency of water treatment plants a priority.

Beyond buildings and lighting, cities today are advancing energy efficiency in many different areas of city services and infrastructure, as shown below.

Areas Currently Targeted by Cities for Energy Efficiency

(percentage of cities)



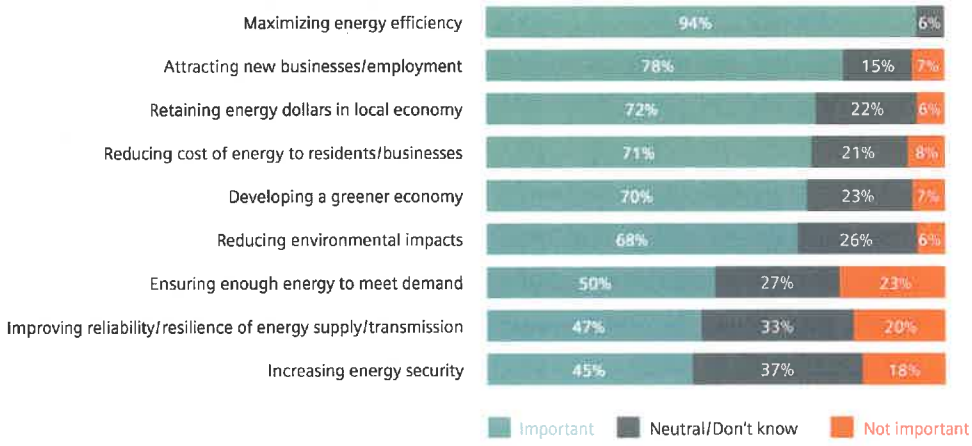
Regardless of city size, efficiency measures are fairly uniform for most city functions, with the exception of public transit and water supply and treatment, which are lower priorities for smaller cities.

Cities embrace economic factors as key drivers of their energy strategies. All types of cities—regardless of size or region—view energy efficiency as a key part of their strategic planning, with over nine in ten cities (94%) saying this is an important goal of their energy strategy.

Cities are more likely to seek economic benefits in adopting clean energy solutions. Cities with populations of 150,000 or greater, as one example, are more likely to rate attracting new businesses or creating jobs, retaining energy dollars in the local economy, and developing a greener economy as important considerations for their energy strategies.

Goals of Cities' Energy Strategies

(percentage of cities)



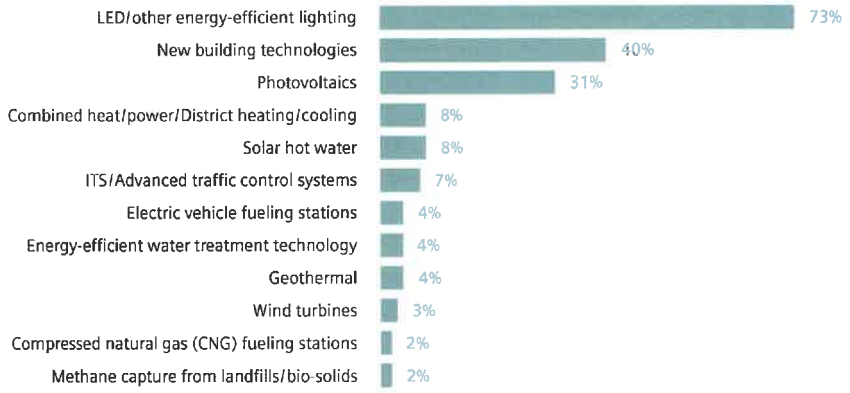
The greatest barriers to clean energy solutions are financial. Far more than any other limitations, cities identify financial constraints as the most significant challenge to implementing energy efficiency improvements and to developing clean energy supplies. More specifically, limited city budgets, high up-front costs, and uncertainty about rates of return on new technologies have slowed the adoption of clean energy technologies by cities. Nearly all cities (97%) name at least one of these factors as a significant challenge.

In this context, support to cities offered by Energy Efficiency and Conservation Block Grants (EECBG) helps ensure that clean energy solutions and energy efficiency measures are being deployed. A strong majority of cities (83%) deployed new energy technologies under the program; no other mechanism has been as widely used for funding energy technologies. The energy efficiency efforts cities have made to date closely parallel investments made using EECBG funds. A strong majority of cities agree that initial EECBG funds were important for deploying new energy technologies (85%), and that additional EECBG funds are now needed for further deployment of these technologies (87%).

As shown in the following chart, the use of EECBG funds for technology investments, especially the top three categories, is consistent with other findings in this survey, notably technologies already being deployed in cities and technologies they identified as most promising for the future.

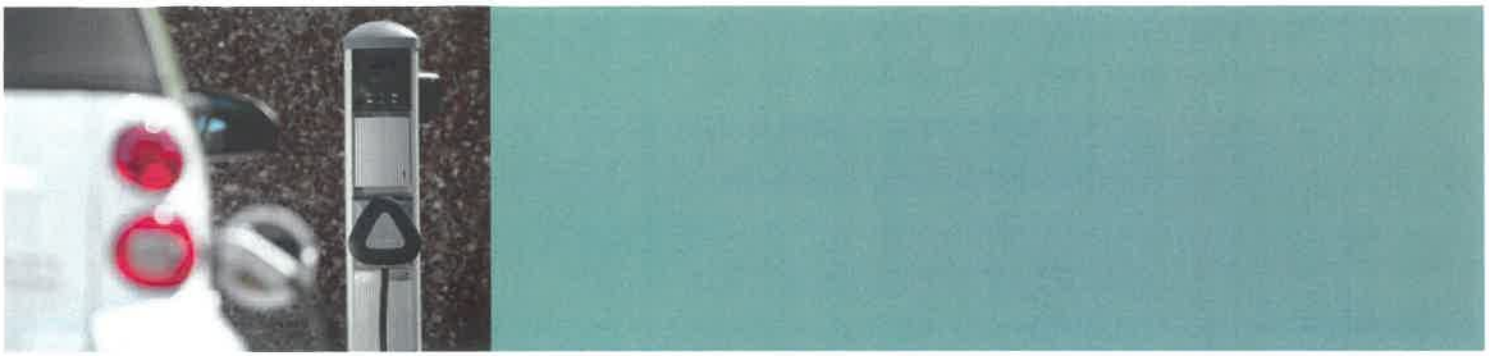
Technologies Funded Using EECBG Funds

(percentage of cities)



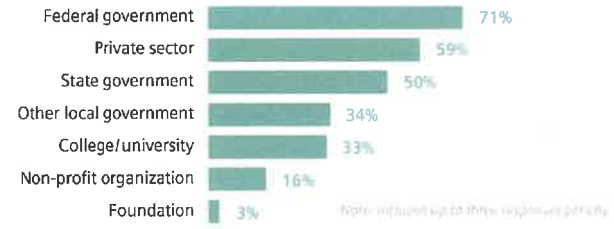
Going forward, cities expect to address financial barriers by seeking funding for energy efficiency investments from federal and state governments (51% and 42% of cities, respectively), and by partnering with utilities on programs (59%).

Beyond additional Energy Efficiency and Conservation Block Grants, mayors also see the potential for greater non-governmental collaboration on clean energy solutions. Cities across the U.S. embrace the federal government and the private sector as their key partners in helping ensure the future deployment of new energy technologies. When asked which partners will be most important to mayors and their energy efficiency efforts, three in five cities (59%) mention the private sector, second most important after the federal government (71%). Only one-third of cities identify other local governments (34%) and colleges and universities (33%) as important potential partners in deploying new energy technologies in the future.



Most Important Partners in Deploying New Energy Technologies

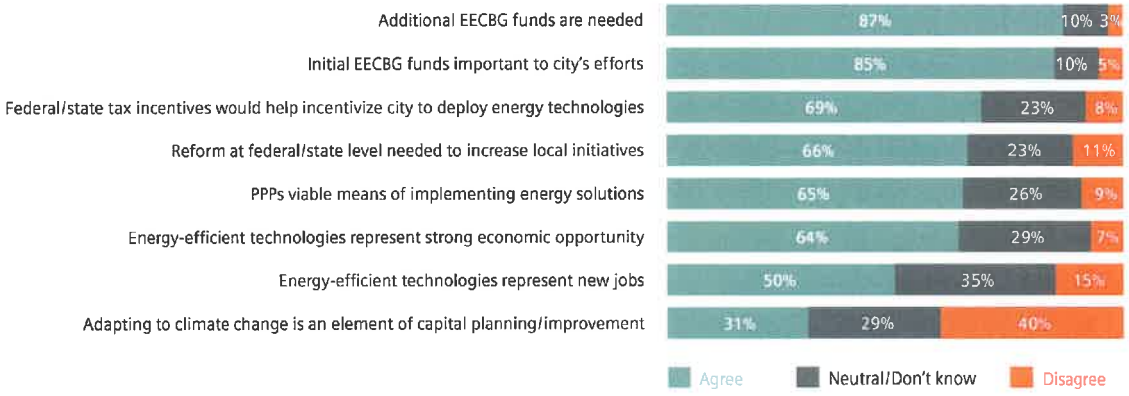
(percentage of cities)



When asked to consider statements related to energy efficiency and energy technology deployment, cities heavily favor continued funding for Energy Efficiency and Conservation Block Grants, with 87 percent citing the need for additional funding for this program. Two-thirds of cities (65%) agree that Private-Public Partnerships (PPPs) are a good way to implement energy solutions.

Policy Considerations/Perspectives for Cities

(percentage of cities)



Cities in the West are leading the way in setting renewable energy targets. To date, one-quarter of U.S. cities (25%) have set specific targets for increasing their use of renewable energy. When looking only at cities in the West, this figure jumps to one-third (34%). Cities with a population of 150,000 or more are also more likely to have set targets (36%), making the impact of the targets—if realized—more meaningful since larger cities use more energy.

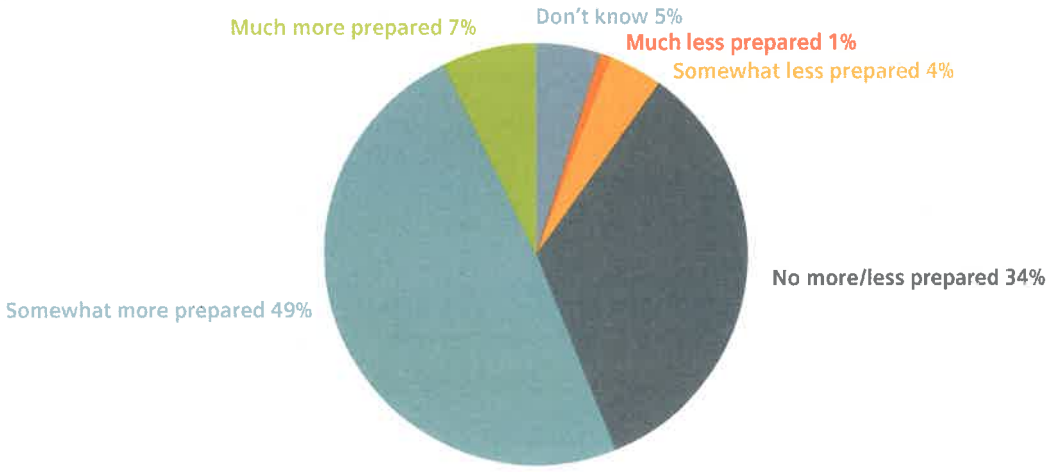
Targets by all cities range from 5 to 100 percent renewables, to be achieved from last year up until the year 2050. Typical targets are 15 to 20 percent renewables by the year 2020.

Climate change adaptation is already a part of infrastructure planning. Nearly one-third of cities (31%) say that they are already taking the effects of climate change into account within their capital planning and capital improvement programs. Cities in the Northeast and West are particularly likely to already be considering climate change adaptation, while cities in the Midwest are least likely.

Cities are better prepared for energy spikes. Compared to just three years ago, when the 2008 spike in oil and energy prices occurred, more than half of cities (57%) say they are now better prepared for dealing with higher energy costs. Cities have done this by taking measures such as reducing vehicle use (49% of cities), managing energy use within existing budgets (48%), and monitoring costs in order to act when costs rise or stay high (40%). In more than half of these cases (58%), the federal requirement to develop an energy strategy as a pre-condition for receipt of Energy Efficiency and Conservation Block Grant (EECBG) funding played a positive role in helping cities become more prepared for energy spikes.

Cities More/Less Prepared for Higher Energy Costs Compared to 2008

(percentage of cities)



Mayors want to see successful examples in other cities as a first order concern as they move to deploy new technologies. Cities are looking closely at working examples from other cities, with nearly two-thirds (63%) indicating they look to best practices by other local governments before proceeding with their own deployments. This type of experience sharing is expected to grow, as 68 percent of cities plan to begin or to continue seeking out best practice examples.

About the survey. This report was prepared for The U.S. Conference of Mayors and sponsored by Siemens based on survey research conducted by GlobeScan in cooperation with the Conference. We would like to thank all those who participated in the survey for their valuable insights and time.

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