



EDUCATION UNCAPPED

The Potential of the Education Sector
in City Climate Action Planning

EXECUTIVE SUMMARY



A review of city climate action plans highlights the opportunity to better engage early childhood, K-12, and higher education to support children and youth in a changing climate.

Children and youth are increasingly confronted with climate-related challenges that threaten their health, well-being, and opportunity. Every sector has a responsibility to act. Many cities have responded proactively by creating comprehensive climate action plans (CAPs) to mitigate, adapt, and build resilience. These strategies have profound implications for all community members, particularly children and youth. Despite this progress, systems and programs that support children and youth remain largely underutilized.

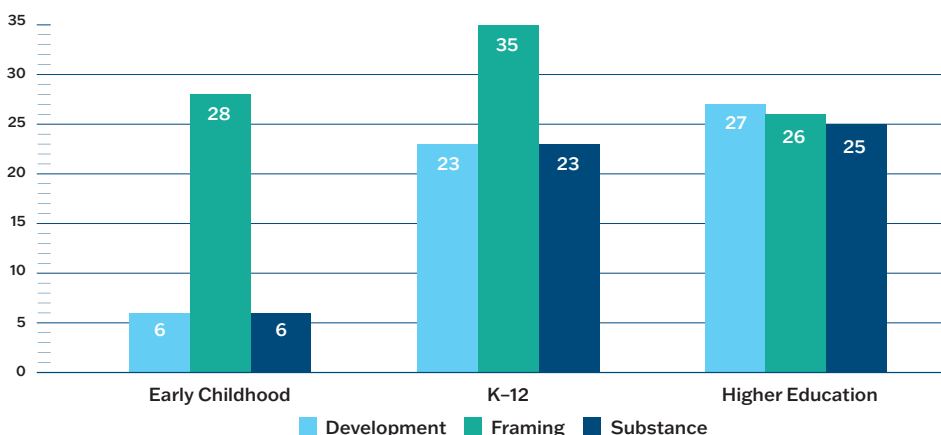
Early childhood, K-12, and higher education systems extend their influence far beyond the classroom, reach deep into the community, and hold significant potential to contribute actively to municipal-level climate action plans. By integrating these systems into climate strategies, cities can reduce the impact of climate change on healthy child development, promote climate literacy, reduce the education sector's sizable carbon footprint, prepare young people for the clean economy, and empower them to be agents of change. Additionally, with 73 million individuals under 18 and nearly 19 million students enrolled in postsecondary institutions — 25% of the US population — activating these systems can drive tremendous change now and in the future.

In this report, we examine the inclusion of children and youth, as well as early childhood, K-12, and higher education systems, in the climate action plans of the 40 most populous US cities.

KEY FINDINGS

- **Cities can further include children, youth, and the systems that serve them, particularly in the development and substance of climate action plans.** Although children and youth were cited frequently in the *framing* of the reviewed climate action plans, the extent to which early childhood, K-12, and higher education systems were included in the *development and substance* of the plans varied greatly.
- **Bright spots exist.** Many cities also demonstrated how early childhood, K-12, and higher education can be effectively integrated into city climate action planning, creating potential models for others to follow.

EDUCATION SECTOR PRESENCE IN CLIMATE ACTION PLANS



CALL TO ACTION

Cities have an opportunity to more deeply engage children, youth, and the systems that serve them in climate action plans to build lasting change for a sustainable, resilient, and equitable future.

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ABOUT US

This Is Planet Ed is an initiative of the Aspen Institute Energy & Environment Program that intends to unlock the power of education as a force for climate action, climate solutions, and environmental justice to empower the rising generation to lead a sustainable, resilient, and equitable future. This Is Planet Ed works across Early Years, K-12, Higher Education, and Children’s Media to build our societal capacity to advance climate solutions. www.ThisIsPlaneted.org.

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ACKNOWLEDGEMENTS

This report was developed with consultation from the Center on the Developing Child at Harvard University. Thank you to Joan Lombardi, Ph.D. with the Early Opportunity Initiative, Jammie Albert with National League of Cities, and Christina Kwauk with Unbounded Associates for their review and feedback on this report.

SUGGESTED CITATION

Lauren Simmons, Michelle Faggert, Laura Schifter, and Medha Iyer. (2023). “Education Uncapped: The Potential of the Education Sector in City Climate Action Planning.” The Aspen Institute: Washington, DC. <https://www.ThisIsPlanetEd.org/blog/education-uncapped-the-potential-of-the-education-sector-in-city-climate-action-planning>



Introduction

Climate change will increasingly impact the health, well-being, learning, and opportunity for children and youth. The effects are not a distant concern, but a reality shaping their daily experiences, influencing their developmental trajectories, and generating uncertainties about their futures. With a staggering [75% of American youth expressing anxiety about the climate crisis](#), the imperative for action has never been clearer. By centering solutions in lived experiences, we can not only reduce the adverse impacts of climate change but also foster healthy development, ensuring our children and youth not only survive but thrive in a changing climate.

The urgency for action is evident across the educational continuum, from early childhood, to K-12, to higher education.



Early Childhood:

Healthy development in the very beginning of a child's life lays the foundation for educational achievement, lifelong health, and strong communities. However, [climate-related impacts](#) including excessive heat, increased air pollution, and interruptions to essential services early on in life may contribute to long-lasting negative effects.



K-12 Schools:

K through 12 schools across the country have faced disruptions, closing for heat days, flooding, and wildfires that impact student learning. [Researchers](#) have estimated this learning loss will decrease potential future income by \$6.9 billion.



Higher Education:

Climate change will shape the jobs of the future. The Inflation Reduction Act and the Infrastructure Investment and Jobs Act alone will create millions of jobs, and yet [there are gaps](#) in securing a prepared workforce to fill these positions. Higher education will be essential in ensuring young people are prepared for these roles.

Importantly, while many children and youth across early childhood, K-12, and higher education will experience the impacts of climate change, Black, Latino, Indigenous, and other communities of color, as well as children and youth from under-resourced rural and urban communities, will disproportionately experience the negative impacts of climate change.

In recognition of the urgency to address climate change, cities across the United States have developed comprehensive climate action plans (CAPs). These strategic frameworks include mitigation measures, adaptation strategies, and resilience-building initiatives to advance solutions. These plans also facilitate cross-sector collaboration — between different sectors, like health, infrastructure, and government — to create a cohesive and robust plan for action. However, the education sector is often underutilized in these strategies, despite its critical role in supporting children, youth, and communities.



WHAT ARE CITY CLIMATE ACTION PLANS?

City climate action plans are frameworks detailing climate mitigation, adaptation, and resilience strategies and targets. They typically function as non-binding decision-making tools to inform policies and programs. CAPs tend to focus heavily on reducing greenhouse gas (GHG) emissions through technical and economic means. There is significant variation in the content and scope of plans, as well as the accompanying strategies and goals. In 2016, San Diego developed the first and one of the only legally binding CAPs in the country.



Incorporating the education sector in climate action planning can strengthen efforts to build a resilient, equitable, and sustainable future.

Recent funding available through the Inflation Reduction Act and the Infrastructure Investment and Jobs Act provides an opportunity for cities to harness the potential of education systems in climate action planning. Cities can leverage this funding to unlock the education sector's ability to mitigate and adapt to climate change and can provide critical funding to support child- and family- serving programs and institutions, schools, and colleges.

As of September 2023, 35 out of the 40 most populous cities as designated by the US census had either adopted or drafted a CAP. This rising trend, with over half of these cities passing or creating their CAPs within the past three years, is an encouraging indicator of the urgency to act. Among the remaining five cities yet to establish a plan, over half are already taking initial steps towards creating one, indicating an increasing national momentum towards comprehensive climate action planning.

This report explores how each segment of the education sector — early childhood, K-12, and higher education — is included in the development, framing, and substance of these city climate action plans and highlights promising practices occurring across the country.



THE INFLATION REDUCTION ACT

The Inflation Reduction Act, with \$369 billion in climate and energy provisions, signifies the largest climate investment in US history and has the potential to reduce carbon emissions by approximately 40 percent by 2030, promote environmental justice objectives in communities most impacted by climate change, and create high-paying clean energy jobs. It includes a “direct pay” or “elective pay” option that allows non-taxable entities, such as schools, to receive cash payments for eligible projects including renewable energy, electric vehicles, and charging infrastructure.



KEY DEFINITIONS

Mitigation refers to measures to reduce the amount and speed of future climate change by reducing emissions of greenhouse gasses (GHGs) or by increasing their removal from the atmosphere.

Adaptation includes actions taken at the individual, local, regional, and national levels to reduce risks from today's changed climate conditions and to prepare for impacts from additional changes projected for the future.

Resilience is the capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.

NOTE: *These definitions are from [the Fourth National Climate Assessment](#)*

Methods

In this analysis, we examined the extent to which climate action plans (CAPs) from the 40 most populous cities as designated by the US census included and considered children and youth as well as the education systems that serve them: early childhood, K-12, and higher education. We analyzed the CAPs between November 2022 and September 2023. To examine the inclusion across the plans, we searched for key terms including:



Early Childhood: child care, day care, birth outcomes, pregnant/cy, infants, and young children



K-12 Schools: school(s), elementary/middle/high school, school district, education, curriculum, students, child welfare



Higher Education: university, college, community college, workforce development, higher education

Although the term “education” appeared in CAPs relating to public awareness campaigns or community outreach, we focused this analysis on direct connections to systems and programs serving children and youth.

Limitations

In considering these findings, it is important to acknowledge some limitations. We relied on publicly available documentation to determine the extent of the inclusion of children and youth and did not speak with stakeholders in these cities to evaluate their implementation. Therefore, while we may be able to report that some cities intend to fund or create environmental education programs, we cannot claim that students are learning about environmental education. There may also be additional cities, counties, and states that are making great strides in including children and youth in climate action planning, but if those have not yet resulted in language in a finalized CAP at the time of the review, they would not be included in this analysis. Additionally, while we focused our analysis at the city-level, some plans reviewed were at the county level.



We analyzed the inclusion of children and youth in the development, framing, and substance of the climate action plans.

- **Development (WHO)** refers to the planning and drafting stages of a CAP. The success of these plans depends heavily on the inclusion of a broad spectrum of stakeholders during the planning phase. In the education sector, such stakeholders could include child care workers, school district officials, researchers, educators, nonprofit leaders, and young people themselves.
- **Framing (WHY)** refers to the extent to which the needs, considerations, and resources of children, youth, and the education sector are included in the justification for the creation of climate action plans.
- **Substance (HOW)** pertains to the specific policies, programs, or objectives within the CAP affecting the education sector. A strategy was included as “substance” if it recognized the specific role or strength of the education sector in advancing climate solutions.

EARLY CHILDHOOD



From before birth to age eight, early childhood experiences pave the way for lifelong health and resilience. However, the pressing challenges of climate change, from resource scarcity to pollution, are posing risks to young children and their caregivers, particularly in underserved communities. Given the importance of the early childhood sector to community well-being and economic growth, it is evident that these years cannot be overlooked in climate action plans.

Negative environmental factors amplified by climate change can significantly impact child development. Prenatal exposure to pollution, for instance, can result in lower lung volume in early childhood and impaired neurodevelopment in children. As climate change intensifies, these harmful outcomes and others, from preterm birth and developmental delays to long-term cardiovascular and respiratory issues, will become increasingly likely.

With a vast network reaching children and their families, including services like center-based child care, pediatric clinics, home-visiting, and early intervention programs, the early childhood sector is uniquely positioned to integrate climate solutions into its framework. Solutions such as access to green space and sustainable transportation options not only promote children's development but also contribute to climate resilience.

By integrating an early childhood perspective into climate action plans, cities can ensure that policies support the healthy growth and development of our youngest citizens while also addressing the pressing challenges of climate change. This dual focus can drive positive outcomes for children, caregivers, and the environment, setting the stage for a sustainable future.

FINDINGS

OVERALL 28 of 35 CAPs reviewed included some reference to young children, families, or child- and family- facing programs, most commonly in framing the impact of climate change on children

- **Development:** 6 CAPs noted the early childhood sector role as part of the development of the climate action plans
- **Framing:** 28 CAPs specifically named children in the framing of the climate action plans
- **Substance:** 6 CAPs included the early childhood sector in the substance of the climate action plans



Development: Only 6 cities explicitly included early childhood in the development of climate action plans

Early childhood professionals, including educators, caregivers, and healthcare providers, hold critical insight into the unique challenges climate change presents to their communities. They can help ensure climate adaptation and mitigation strategies meet the needs of families with young children, particularly under the strain of extreme weather and other climate-related threats. Their on-the-ground perspective can be instrumental in creating strategies that support children's health and well-being in a changing climate.

Despite their expertise, early childhood professionals frequently weren't recognized as key contributors to the development of city CAPs. Out of 35 climate action plans, Austin's stood alone in noting that the city explicitly sought out the perspectives of early childhood professionals during the planning stages. Moreover, the City of Austin also included child care at climate planning sessions to ensure such opportunities were accessible to the greatest number of people. The CAPs of five other cities — Houston, Indianapolis, Boston, Washington, D.C., and Kansas City, MO — noted the inclusion of early childhood professionals on advisory boards, but did not refer to the specific ways in which these individuals contributed to the plan's development.



Framing: 28 cities referenced children in the framing of their climate action plans; 11 made a distinction between the needs of children in general and those of young children

Children often featured prominently as reasons for drafting climate action plans. Twenty-eight plans referred to the importance of preserving the future and ensuring the well-being of children, especially given their sensitivity to the effects of climate change.

Of those 28 plans, only 11 made a distinction between the relative risk of climate change to children in general and to young children. Of these 11 plans, four went on to describe the health and quality of life concerns of children under the age of eight as being different from those of other vulnerable communities, including those of older children.

Six plans (Milwaukee, WI, San Antonio, TX, Chicago, IL, Sacramento, CA, Washington, D.C., and Kansas City, MO) acknowledged pregnant people and/or developing fetuses as being especially sensitive to the effects of climate change.



BRIGHT SPOT: AUSTIN, TX

In the CAP planning process, Austin established a panel of Community Climate Ambassadors, a group that included high school students, community organizers, nonprofit leaders, educators, and representatives from [Mama Sana Vibrant Woman \(MSVM\)](#), a grassroots organization promoting access to quality prenatal and postnatal care for people of color. This paid, six-month [program](#) focused on those often overlooked in climate change discussions, particularly low-income communities, and communities of color.

During their tenure, the MSVM-affiliated ambassadors worked to identify the most pressing climate equity issues in their neighborhoods, ensuring their inclusion in the city's CAP. They also provided educational programming on topics such as the role of in-home air quality during the prenatal period.

Substance: 6 CAPs leveraged the early childhood sector in the substance of climate action plans

Despite the frequent reference to young children's futures to stress the urgency of climate action, most CAPs lacked strategies that directly addressed the early childhood sector. Only six cities recommended strategies that acknowledged the role of the sector in addressing climate change. Six cities — Houston, Dallas, Austin, Denver, Washington, DC, and Louisville — explicitly addressed child care in their CAPs.

Some cities linked their early education and care systems to sustainable zoning policies or community-centered land use regulations. For instance, they emphasized the potential benefits of high-density, mixed-use, mixed-income developments in increasing access to critical infrastructure like child care facilities, particularly

for low-income families. However, in most cases, the reference to child care access was indirect or incidental, with Austin and Houston being exceptions. For instance, Austin's CAP calls for workforce development initiatives to also include childcare to expand the potential pool of clean jobs training program candidates. Houston's CAP presents two unique strategies focused on the structural and mental health needs of very young children and parenting families.

Four cities — Dallas, Phoenix, Washington, D.C., and Detroit — discussed the importance of lead testing in child care facilities, public housing where pregnant people reside, and health care facilities, respectively. While the relationship between lead and climate change is indirect, lead emissions can contribute to air pollution, affecting air quality and potentially leading to the formation of particulate matter.



BRIGHT SPOT: KANSAS CITY, MO

Recognizing nuanced understandings of vulnerability, the Climate Action KC Equity Committee developed a glossary to detail the unique needs of different sensitive populations, including children and pregnant individuals. This glossary informed a supplemental 'equity guide' to help ensure businesses, organizations, and municipalities protect these populations in their climate action strategies.

The glossary explicitly defined 'Children' and 'Pregnant People,' acknowledging their distinct sensitivities. For instance, it highlighted children's sensitivity due to their developing bodies, unique interactions with their environment, and dependency on caregivers. For pregnant individuals, the glossary noted the health impacts of pregnancy and their increased susceptibility to factors like heat intolerance. Such specificity in identifying sensitivities can guide more targeted, effective action.



BRIGHT SPOT: HOUSTON, TX

Following the devastation of Hurricane Harvey in 2017, Houston has proactively engaged various partners to identify and fortify critical facilities, including child care centers. Their strategies included flood and power loss mitigation strategies and rainwater harvesting systems, all of which would allow these facilities to continue operations during extreme weather events.

Moreover, Houston's CAP outlined a plan to provide child care professionals with trauma-informed training from the National Child Traumatic Stress Network. This 'train-the-trainer' model equipped professionals to provide social-emotional support to young children after extreme weather events and natural disasters, and to further train parents and early childhood caregivers in vulnerable Houston communities.

Opportunity

Given the heightened sensitivity of young children and pregnant people to the impacts of climate change, cities have an opportunity to further include their needs and perspectives in climate action plans by prioritizing the early childhood sector in mitigation and adaptation strategies. By actively engaging and amplifying the voices, experiences, and expertise of those closest to young children and their families, cities can cultivate more just and equitable communities that are well-equipped to navigate the challenges posed by a changing climate.

EARLY CHILDHOOD IN CITY CLIMATE ACTION PLANS	DEVELOPMENT	FRAMING	SUBSTANCE
New York, New York		✓	
Los Angeles, California		✓	
Chicago, Illinois		✓	
Houston, Texas	✓	✓	✓
Phoenix, Arizona		✓	
Philadelphia, Pennsylvania		✓	
San Antonio, Texas		✓	
San Diego, California			
Dallas, Texas		✓	✓
San Jose, California		✓	
Austin, Texas	✓	✓	✓
Jacksonville, Florida		No finalized city CAP at the time of the review	
Fort Worth, Texas		No finalized city CAP at the time of the review	
Columbus, Ohio		✓	
Indianapolis, Indiana	✓	✓	
Charlotte, North Carolina			
San Francisco, California		✓	
Seattle, Washington		✓	
Denver, Colorado		✓	✓
Oklahoma City, Oklahoma		✓	
Nashville-Davidson, Tennessee		✓	
El Paso, Texas		No finalized city CAP at the time of the review	
Washington, District of Columbia	✓	✓	✓
Boston, Massachusetts	✓		
Las Vegas, Nevada			
Portland, Oregon		✓	
Detroit, Michigan		✓	
Louisville/Jefferson County, Kentucky		✓	✓
Memphis, Tennessee		✓	
Baltimore, Maryland		✓	
Milwaukee, Wisconsin		✓	
Albuquerque, New Mexico		✓	
Fresno, California			
Tucson, Arizona		✓	
Sacramento, California		✓	
Mesa, Arizona			
Kansas City, Missouri	✓	✓	
Atlanta, Georgia			
Omaha, Nebraska		No finalized city CAP at the time of the review	
Colorado Springs, Colorado		No finalized city CAP at the time of the review	

K-12 SCHOOLS



In many cities, K-12 schools, in addition to serving students in every community, are among the largest building owners, transportation managers, and employers. Collaboration with schools can help cities decarbonize, build community resilience, and equip the rising generation with the knowledge and skills to advance a sustainable future.

With over 100,000 public schools across the country serving more than 50 million children, the K-12 sector can significantly influence municipal climate action efforts. In the US, schools are one of the largest public sector energy consumers, operate the largest mass transit fleet with 480,000 buses, and serve 7 billion meals annually. Additionally, schools are located in every community and can serve as hubs of community resilience during extreme weather.

Supporting K-12 schools in becoming beacons for climate action offers many benefits. It can reduce annual operations costs, opening up more funding for teaching and learning. It creates sustainable learning environments that improve student health and learning. By modeling climate solutions, it provides first-hand learning opportunities for students. And, it will help cities achieve ambitious climate mitigation and adaptation goals.

By partnering with school boards, local education agencies (LEAs), educators, and students as active participants in the climate action plans — development, framing, and substance — cities can achieve these benefits and inspire children and youth to lead a sustainable, resilient, and equitable future.

FINDINGS

OVERALL 35 out of 35 CAPs included at least one mention of the K-12 sector or children, most commonly in the framing and to highlight the role of schools in providing environmental education

- **Development:** 23 CAPs noted the involvement of at least one K-12 representative in the development of the plan
- **Framing:** 35 CAPs noted of the K-12 sector in the framing of their climate action
- **Substance:** 23 CAPs included at least one substantive partnership between the municipal government and the K-12 sector as being a part of its overall climate action strategy



Development: 23 CAPs included at least one representative from the K–12 sector, with 9 specifically including students in the development of their plans

Out of the 35 cities with CAPs, 23 actively involved K–12 representatives in their development process. These plans, consequently, placed greater emphasis on youth-driven strategies. In contrast, the remaining 12 plans lacked the depth and specificity seen in those with K–12 input, underscoring the significance of their involvement in refining CAP integration.

At least nine cities had primary and secondary school students, some as young as nine-years-old, serving in leadership or advisory roles for their respective CAPs. This community-led, “bottom up” approach enables intergenerational collaboration. Creating pathways that allow K–12 students to have a say in climate strategies provides a constructive way to exercise agency and enact change, setting the stage for a lifetime of civic engagement and leadership.

Framing: 35 CAPs referenced the K–12 sector or children in the framing of the plan, mostly commonly connected to role of environmental education

35 out of 35 CAPs referred to the K–12 sector at least once, although the extent to which the sector was framed as an implementation partner varied significantly. At least five CAPs specifically noted the importance of the K–12 sector to achieving the cities’ overall climate goals, typically in the form of environmental education.



**BRIGHT SPOT:
NASHVILLE, TN**

In the most recent draft of the city’s CAP, Nashville’s Sustainable Action Committee has taken steps to include input from the Mayor’s Youth Council, a group of local high school student leaders, to help inform the development of its climate action plan. The council members collaborated with subcommittee co-chairs and contributed to planning meetings, asserting their belief in the “youthful ingenuity and optimism of Nashville’s students and young adults’ to inspire innovative approaches to combat climate change and promote equity.”



**BRIGHT SPOT:
TUCSON, AZ**

In Tucson’s recently adopted CAP, the emphasis on education was evident throughout the framing of the plan, reflecting the community’s expressed desire to enhance climate awareness. The city committed to partnering with organizations and schools already working on climate resilience and education. Beyond the framing, the city committed to substantively partnering with the sector. The city is developing Tucson-specific climate, sustainability, and conservation curricula across all grades in collaboration with the Environmental Education Exchange and local schools.

Tucsonans are not alone in their desire for climate education to be a part of their city’s CAP. San Francisco, Indianapolis, Philadelphia, and Milwaukee also stressed the importance of creating and expanding climate-related learning opportunities for young people in their CAPs.

Substance: 23 CAPs mentioned a substantive partnership between cities and K-12 schools

Out of 35 CAPs, 23 recognized the pivotal role K-12 schools play in advancing climate solutions. These collaborations were generally connected to the following goals:

- Promoting career and technical education (5 cities)
- Expanding composting and recycling efforts (5 cities)
- Electrifying school buses (4 cities)
- Enhancing climate-centric curriculum (3 cities)
- Expanding green schoolyards or garden initiatives (2 cities)

Some cities included innovative and unique approaches: [Dallas](#) aimed to monitor 'forever chemicals' in public school water sources. [San Francisco](#) sought to swap existing school lunches for lower-emissions options. Both [Tucson](#) and [New York City](#) envisioned schools as climate resilience hubs for the broader community.



BRIGHT SPOT: ALBUQUERQUE, NM

The City of Albuquerque developed an effective partnership with Albuquerque Public Schools (APS) by incorporating Local and Indigenous Information Systems (LINKS), climate change, and school gardens into APS curricula. These efforts are supported by more than 90 school gardens and utilize lesson plans grounded in Indigenous information systems and traditional ecological knowledge. They are designed by local Master Gardeners and a district-wide garden specialist.



INDIGENOUS KNOWLEDGE SYSTEMS

Indigenous peoples have a deep relationship with the land, water, and other natural elements which are integral to their cultures, knowledge, and livelihoods. These relationships have been developed and taught in Indigenous communities since time immemorial, long before the American public-school system was established. Indigenous Knowledge Systems (IKS) shape Indigenous youth identity and perceptions of the world.

While science and social studies education in the US often includes human-environment interactions, there is an emphasis on empirical data and western science. Rarely do these classes include Indigenous Knowledge Systems, which is a holistic, observational, and systematic way of understanding the environment and its connection to culture and society. IKS has contributed to Indigenous communities leading on mitigating and responding to climate change as well as management of lands in which the majority of the world's remaining biodiversity is found.





BRIGHT SPOT: MILWAUKEE, WI

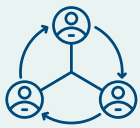
Born from a partnership between Milwaukee Public Schools, the City of Milwaukee, and the Metropolitan Sewerage District, the Green and Healthy Schoolyard (GHS) Redevelopment Program planned to replace large expanses of heat-trapping asphalt playgrounds that can contribute to urban heat islands with rain gardens and other sustainable infrastructure. Sustainable schoolyards like GHS can help improve student well-being and learning, create direct connections with nature, and reduce community heat and flooding.

Milwaukee’s Climate and Equity Plan, formally adopted in January 2023 explicitly referenced the funding opportunities in the Inflation Reduction Act (IRA) of 2022 to support schools in increasing energy efficiency and installing renewable energy.



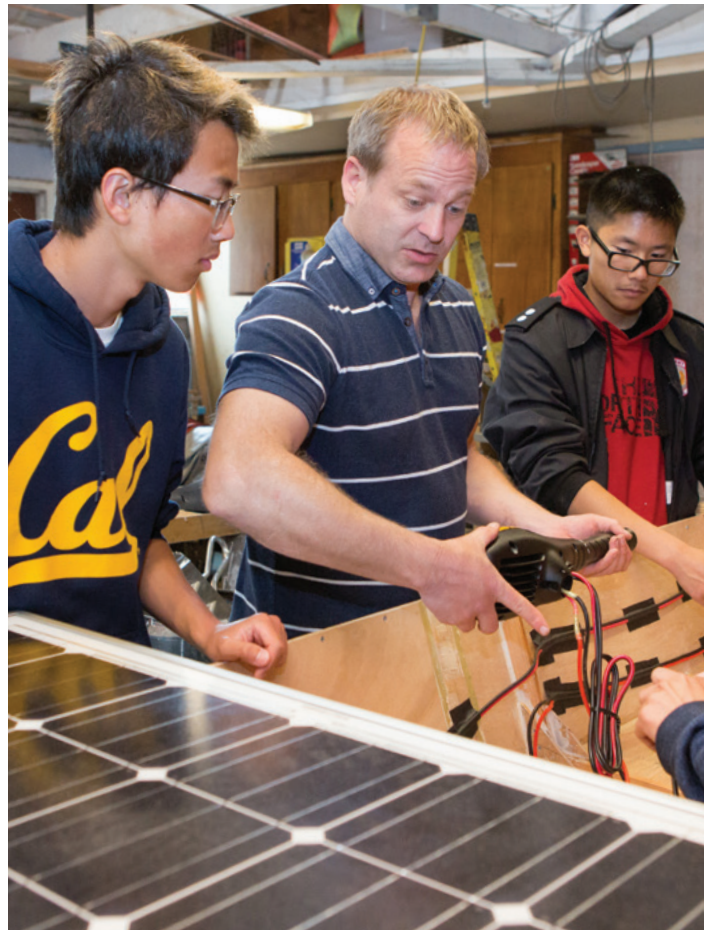
BREAKING NEWS

In April 2023, Mayor Eric Adams announced the release of PlaNYC — New York’s City’s updated strategic climate action plan. This climate action plan outlines 10 goals for achieving New York’s ambitious climate targets. One goal, to build the Green Economy, listed “launching new climate education and training programs for public schools” as a key initiative, and **“integrating climate education in public school classrooms across all subjects and grade levels”** and **“launching new Career Connected Learning Programs for public school students dedicated to green job training and placement”** as a subsequent actions.



OPPORTUNITY FOR COLLABORATION

Miami-Dade County, one of the most populous counties in the US, comprises several distinct cities with K-12 public schools governed at the county level. The City of Miami, Miami-Dade County, and Miami-Dade Public Schools all have climate action plans with specific goals and strategies. Creating connections across the plans highlights opportunities to work together toward broader action. For instance, the City of Miami’s “Miami Forever Carbon Neutral Plan” acknowledges “As the City of Miami, Miami-Dade County Public Schools, and Miami-Dade County all have large purchasing and political power, the collective influence of these commitments can positively push Miami’s economy towards greater sustainability and equity.”



Opportunity

Cities have an opportunity to prioritize the inclusion of young people’s voices, experiences, and ideas, particularly those from communities most impacted by climate change, in climate action planning. Given their reach and influence, schools have the potential to become beacons for climate action, modeling climate solutions for students, and creating resilience hubs for communities. By recognizing the potential of including K–12 schools and students, cities can more effectively accomplish their climate goals and support the well-being and education of children and youth.

K-12 IN CITY CLIMATE ACTION PLANS	DEVELOPMENT	FRAMING	SUBSTANCE
New York, New York	✓	✓	✓
Los Angeles, California	✓	✓	✓
Chicago, Illinois	✓	✓	✓
Houston, Texas		✓	
Phoenix, Arizona	✓	✓	✓
Philadelphia, Pennsylvania		✓	✓
San Antonio, Texas	✓	✓	
San Diego, California	✓	✓	✓
Dallas, Texas		✓	✓
San Jose, California	✓	✓	
Austin, Texas	✓	✓	✓
Jacksonville, Florida		No finalized city CAP at the time of the review	
Fort Worth, Texas		No finalized city CAP at the time of the review	
Columbus, Ohio		✓	
Indianapolis, Indiana	✓	✓	✓
Charlotte, North Carolina		✓	
San Francisco, California	✓	✓	✓
Seattle, Washington		✓	✓
Denver, Colorado	✓	✓	✓
Oklahoma City, Oklahoma		✓	
Nashville-Davidson, Tennessee	✓	✓	✓
El Paso, Texas		No finalized city CAP at the time of the review	
Washington, District of Columbia	✓	✓	✓
Boston, Massachusetts	✓	✓	✓
Las Vegas, Nevada	✓	✓	✓
Portland, Oregon		✓	
Detroit, Michigan	✓	✓	
Louisville/Jefferson County, Kentucky	✓	✓	✓
Memphis, Tennessee		✓	✓
Baltimore, Maryland		✓	✓
Milwaukee, Wisconsin	✓	✓	✓
Albuquerque, New Mexico	✓	✓	✓
Fresno, California		✓	
Tucson, Arizona	✓	✓	✓
Sacramento, California	✓	✓	
Mesa, Arizona		✓	
Kansas City, Missouri	✓	✓	✓
Atlanta, Georgia	✓	✓	
Omaha, Nebraska		No finalized city CAP at the time of the review	
Colorado Springs, Colorado		No finalized city CAP at the time of the review	

HIGHER EDUCATION



Colleges and universities are key players in urban settings, serving as community hubs, living labs, research centers, and training grounds for the workforce of tomorrow. Collaboration with higher education in climate action planning can help cities deploy climate technology, support community adaptation, develop innovative approaches, prepare students for clean economy jobs, and help shape climate goals through their community partnerships.

With its vast reach and influence, higher education can be a critical partner to support city climate action plans. Higher education, like many large institutions, has significant resource needs that impact the environment. With about 19 million students enrolled, higher education manages approximately 210,000 buildings with 6.2 billion square feet of floor space and spends \$6 billion on energy annually. By decarbonizing campuses, institutions can lead by example and contribute to meeting city-level climate mitigation goals.

Higher education can also utilize its strengths as centers of learning, research hubs, and trusted community partners to further city climate action plans. Higher education has already served as a leader in researching climate change — its causes, consequences, and solutions. Beyond research, they also serve as a trusted resource for information and knowledge. Critically, the higher education sector, especially community colleges, is an essential leader in supporting workforce development representation on an advisory board or committee or as consultants.

Despite these strengths and opportunities, many colleges and universities are still only scratching the surface when it comes to their impact on city climate action. Cities can harness this untapped potential through partnerships, collaborations, and deeper integration into climate action planning to accelerate municipal climate solutions.

FINDINGS

OVERALL 30 of the 35 CAPs included at least one mention of the postsecondary sector, most commonly noting its value in terms of expertise, resources, and proximity to members of the future workforce

- **Development:** 27 CAPs included higher education institutions in the development of the plan
- **Framing:** 26 CAPs described the important role of higher education in the framing of the plan
- **Substance:** 25 CAPs included at least one substantive partnership between the municipal government and the postsecondary sector as part of its overall climate action strategy



Development: 27 CAPs included higher education in the development of climate action plans

Higher education was pivotal in formulating 27 of the 35 CAPs. This involvement spanned from representation in advisory committees to acting as specialized consultants. Specifically, nine CAPs underscored partnerships with universities and other postsecondary institutions during the plan's initial scoping phase. These collaborations harnessed the research strengths of local universities for two primary functions: (1) conducting rigorous emissions assessments or (2) creating comprehensive CAP management and tracking systems. Such partnerships allowed for cities to employ a data-driven approach in determining their environmental footprint and the resources at their disposal, and paved the way for highly-targeted and efficient climate initiatives.

Framing: 26 CAPs described the important role of higher education in the framing of the action plan

26 of the 35 plans emphasized higher education in their framing, highlighting the value of tapping into the expertise of local academic entities, including local universities, community colleges, and other postsecondary institutions. The multifaceted role of higher education in the framing of the city CAPs tended to follow one of two narratives: some CAPs positioned universities and colleges as potential partners in achieving research or workforce development goals, while others focused on the need to continue the sector's role in promoting the overall economic and social health of the city, including implications for equity and climate justice.

Substance: 25 CAPs included higher education in the substance of their climate action strategy

Out of the 35 CAPs examined, 25 explicitly referenced the role of higher education in implementing climate strategies. The inclusion — or lack thereof — of academic institutions can reflect a city's approach to leveraging external expertise and its approach to a comprehensive, multi-stakeholder climate strategy. A smaller subset of just five CAPs referred to research agendas to monitor the implementation of the city's climate action strategies, either through ongoing research or by providing data analytics and visualizations.



BRIGHT SPOT: PHOENIX, AZ

The City of Phoenix forged a partnership with Arizona State University (ASU) to define baseline emissions levels and create tracking and monitoring systems for the city's CAP. With ASU's ongoing advisory role, Phoenix benefits from academic expertise and rigorous scrutiny of their climate action strategies. Their continued relationship highlights the value of sustained partnerships for ongoing adaptation and evolution of Phoenix's CAP, allowing the city to more ably and sustainably manage its implementation.



BRIGHT SPOT: UTILIZING RESEARCH FOR TARGETED WORKFORCE ANALYSIS

Research produced by postsecondary institutions can help cities strategically identify the clean economy jobs aligned with regional growth projections, climate action goals, workforce development capacity, and the talent needs of local businesses. Three cities — Phoenix, Oklahoma City, and Kansas City (MO) — referred to research out of local area colleges and universities in the framing of their clean jobs roadmap.

By taking this step, city governments and universities can better prioritize workforce development programs that support the talent needs of local businesses.





BRIGHT SPOT: OKLAHOMA CITY, OK

In their climate action plan, Oklahoma City acknowledges their potential to be a major solar market and outlines the role of a trained, qualified workforce to meet this demand. To accomplish this, the plan recommends a partnership with local schools, colleges, and universities to establish solar training programs that will certify and train workers for solar occupations. The plan identifies community colleges and technology centers in particular as ideal starting points to develop and implement these programs.

Opportunity

Often a trusted partner in communities, the higher education sector has an opportunity to further assist in the development and implementation of city climate action plans. A more comprehensive partnership between higher education and cities can result in the accelerated deployment of clean innovations, technology, and research, as well as a rapid transition to the clean workforce of the future. In particular, collaborations with Tribal Colleges and Universities, Historically Black Colleges and Universities, and other Minority Serving Institutions can champion voices from communities most impacted by climate change and ultimately foster a more just, sustainable, and resilient future.



HIGHER EDUCATION IN CITY CLIMATE ACTION PLANS	DEVELOPMENT	FRAMING	SUBSTANCE
New York, New York	✓	✓	✓
Los Angeles, California	✓	✓	✓
Chicago, Illinois	✓		✓
Houston, Texas		✓	✓
Phoenix, Arizona	✓	✓	✓
Philadelphia, Pennsylvania	✓	✓	
San Antonio, Texas	✓		
San Diego, California	✓	✓	✓
Dallas, Texas	✓		✓
San Jose, California		✓	✓
Austin, Texas	✓	✓	✓
Jacksonville, Florida		No finalized city CAP at the time of the review	
Fort Worth, Texas		No finalized city CAP at the time of the review	
Columbus, Ohio		✓	
Indianapolis, Indiana	✓		
Charlotte, North Carolina	✓	✓	
San Francisco, California		✓	✓
Seattle, Washington			✓
Denver, Colorado	✓	✓	✓
Oklahoma City, Oklahoma	✓	✓	✓
Nashville-Davidson, Tennessee	✓	✓	✓
El Paso, Texas		No finalized city CAP at the time of the review	
Washington, District of Columbia	✓	✓	✓
Boston, Massachusetts	✓	✓	✓
Las Vegas, Nevada	✓		
Portland, Oregon			
Detroit, Michigan	✓	✓	✓
Louisville/Jefferson County, Kentucky	✓	✓	✓
Memphis, Tennessee	✓	✓	✓
Baltimore, Maryland	✓	✓	✓
Milwaukee, Wisconsin	✓	✓	✓
Albuquerque, New Mexico	✓		
Fresno, California		✓	✓
Tucson, Arizona	✓	✓	✓
Sacramento, California	✓	✓	
Mesa, Arizona		✓	
Kansas City, Missouri	✓	✓	✓
Atlanta, Georgia	✓	✓	✓
Omaha, Nebraska		No finalized city CAP at the time of the review	
Colorado Springs, Colorado		No finalized city CAP at the time of the review	

Appendix

ANNUAL RESIDENT POPULATION FOR INCORPORATED PLACES OF 50,000 OR MORE

Source: [US Census](#)

RANK	GEOGRAPHIC AREA	APRIL 1, 2020	CLIMATE ACTION PLAN
1	New York city, New York	8,804,190	PlaNYC 2023
2	Los Angeles city, California	3,893,986	L.A.'s Green New Deal 2019
3	Chicago city, Illinois	2,747,231	2022 CAP: Chicago Climate Action Plan
4	Houston city, Texas	2,302,792	Resilient Houston and the Climate Action Plan 2020
5	Phoenix city, Arizona	1,607,739	Phoenix Climate Action Plan 2021-The City of Phoenix is updating its Climate Action Plan during 2023
6	Philadelphia city, Pennsylvania	1,603,797	Climate Action Playbook 2021
7	San Antonio city, Texas	1,434,270	SA Climate Ready 2019
8	San Diego city, California	1,385,922	City of San Diego CLIMATE ACTION PLAN 2022
9	Dallas city, Texas	1,304,442	DALLAS COMPREHENSIVE ENVIRONMENTAL AND CLIMATE ACTION PLAN 2020
10	San Jose city, California	1,014,545	Climate Smart San Jose 2018
11	Austin city, Texas	959,549	Austin Climate Equity Plan 2021
12	Jacksonville city, Florida	949,577	No finalized city CAP at the time of the review- Jacksonville Resilience Plan slated for 2023 completion
13	Fort Worth city, Texas	918,377	No finalized city CAP at the time of the review
14	Columbus city, Ohio	905,672	Columbus City Climate Action Plan 2021
15	Indianapolis city (balance), Indiana	887,752	Thrive Indianapolis 2019
16	Charlotte city, North Carolina	874,541	Strategic Energy Action Plan 2018
17	San Francisco city, California	873,965	San Francisco Climate Action Plan 2021
18	Seattle city, Washington	735,157	Seattle Climate Action Plan 2013 and 2018 Update
19	Denver city, Colorado	715,522	Climate Protection Fund 5 Year Plan
20	Oklahoma City city, Oklahoma	681,387	Adaptokc2020

21	Nashville-Davidson metropolitan government (balance), Tennessee	689,504	2021 Climate Action Plan-A draft Climate Adaptation and Resilience Plan was released in September 2023 with public comment available until October 2023
22	El Paso city, Texas	678,587	No finalized city CAP at the time of the review-Climate Action Planning process began fall of 2023 to be finalized by 2025
23	Washington city, District of Columbia	689,545	Sustainable DC 2.0 2020
24	Boston city, Massachusetts	676,216	Boston Climate Action Plan 2019
25	Las Vegas city, Nevada	641,825	All In Clark County 2023
26	Portland city, Oregon	652,089	Climate Emergency Work Plan 2022
27	Detroit city, Michigan	639,614	Detroit Climate Action Plan 2019
28	Louisville/Jefferson County metro government (balance), Kentucky	632,689	Prepare Louisville 2020
29	Memphis city, Tennessee	632,207	Memphis Area Climate Action Plan 2019
30	Baltimore city, Maryland	585,708	Baltimore Climate Action Plan 2012-an updated draft is expected to be finalized October 2023
31	Milwaukee city, Wisconsin	577,235	Climate & Equity Plan 2022
32	Albuquerque city, New Mexico	564,563	OneAlbuquerque Climate Action Plan 2021
33	Fresno city, California	542,161	Fresno GHG Reduction Plan 2021
34	Tucson city, Arizona	541,349	Tucson Resilient Together 2023
35	Sacramento city, California	522,754	Sacramento Climate Action and Adaptation Plan 2022-an updated draft was released in 2023 and is expected to be finalized by the end of the year
36	Mesa city, Arizona	504,500	Mesa Climate Action Plan For A Sustainable Community 2022
37	Kansas City city, Missouri	507,969	Climate Protection & Resiliency Plan 2022
38	Atlanta city, Georgia	498,602	City of Atlanta Climate Action Plan 2015
39	Omaha city, Nebraska	490,627	No finalized city CAP at the time of the review-Climate Action and Resilience Plan expected by June 2024
40	Colorado Springs city, Colorado	479,260	No finalized city CAP at the time of the review-SustainableCOS is expected by 2023



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 in 2023 by The Aspen Institute
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