



INCLUSIVE CLIMATE ACTION IN PRACTICE

How to jointly tackle climate change and inequality: case studies from leading global cities

C40 CITIES CLIMATE LEADERSHIP GROUP

The C40 Cities Climate Leadership Group, now in its 13th year, connects 90+ of the world's greatest cities which have committed to tackling climate change. We bring mayors from around the world together to learn from each other in reducing greenhouse gas emissions and creating resilient, sustainable and inclusive cities. C40 cities represent more than 700 million urban citizens and their economies account for 25% of global GDP. Our 'Deadline 2020' report sets out the critical role that the world's major cities have to play in delivering the historic Paris Agreement to prevent catastrophic climate change.

INCLUSIVE CLIMATE ACTION PROGRAMME

Established at the behest of a group of leading C40 mayors, the Inclusive Climate Action (ICA) programme provides cities with a clear roadmap and support to plan, build consensus and deliver bold climate action that is equitable and beneficial for all. The programme aims at bringing to cities hands-on support including inclusivity reviews and benefits assessments of climate action plans, technical and collaborative trainings, knowledge on engagement and empowerment of communities, best practice exchanges, communication platforms, research and innovative partnerships.

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01

Introduction

CLIMATE CHANGE IS UNFAIR

Climate change does not treat everyone equally. The people who have benefited the least from our fossil fuel dependencies, and who are contributing the least greenhouse gas emissions, are suffering the most from the consequences.

The actions of 10% of the world's population are responsible for 50% of global emissions. At the same time, the poorest and most vulnerable in our societies are disproportionately at risk from rising sea levels, unprecedented droughts and climate related disasters. Women and children suffer more than men. In the United States, two-thirds of the jobs lost in the aftermath of Hurricane Katrina were held by women. Climate events are expected to force 100 million people into extreme poverty over the next decade and create over 200 million climate migrants by 2050.

RESPONSES TO CLIMATE CHANGE ARE ALSO UNFAIR

Benefits and burdens of climate action are not distributed equitably. People who are socially, economically, culturally, politically or otherwise excluded or marginalized typically profit the least from environmental subsidies, low carbon transportation options, resilience measures and energy efficiency savings.

More than 50% of the world's population now live in cities, and the trend is moving towards extreme inequality amongst those urban citizens. In many of the world's fastest growing cities, one billion people now live in vast sprawling slums without access to land, housing or basic services. In this context, the response to climate change is often unfair and not capable of sharing its benefits equitably. Wealthier people have typically profited more from subsidies for renewable energy and home energy efficiency, while the experience of recent extreme weather events shows that citizens from the poorest communities are left without homes and jobs long after the rest of the economy has recovered. Also, access to low-carbon transportation or efficient waste management services tend to be higher in high-income districts, thus improving air quality and public health for the residents of these areas.

CITIES ARE LEADING THE WAY

Cities are at the center of both the climate crisis and the search for solutions. Local leaders need to act quickly to protect and provide for all citizens, especially those most impacted by climate change and traditionally least represented in the corridors of power. Several mayors around the world are already leading the way, committed and engaged in jointly achieving social goals and climate goals with concrete practices on the ground.

Examples include delivering electric car sharing schemes to low-income neighborhoods, increasing portions of zero or low-carbon social housing, committing to a just transition by working with unions to set green job targets, involving informal waste pickers in landfill refurbishment or increasing resilience of informal settlements and slum dwellings. The ambitious climate action demanded by the Paris Agreement will not be fully effective and will not deliver the maximum positive impacts unless it is inclusive of all citizens and distributes resources and benefits equitably. Delivering on the Paris Agreement thus presents a unique opportunity to create a more just urban society, with new protections for those that have been historically marginalized by the fossil fuel economy and with better jobs, improved health and better air quality for all.

TACKLING CLIMATE CHANGE AND GROWING INEQUALITIES SIMULTANEOUSLY, NEEDS EVERYONE

Our research shows that while many cities and communities are testing and implementing innovative and transformational initiatives that tackle both climate change and social injustice; for many cities and urban practitioners the lack of available and accessible case studies is a key barrier to delivering climate action in an inclusive and equitable way.

C40 in collaboration with BuroHappold and together with the support and input from leading C40 cities (Barcelona, Buenos Aires, Cape Town, Los Angeles, New York City, Paris and Sydney) has collated a number of case studies to inspire urban practitioners, citizens and city leaders around the world on driving inclusive climate action. These case studies seek to share knowledge and knowhow on tangible solutions for inclusive climate action. The case studies are presented in two parts: 1) WHAT are the tangible lessons learned? 2) HOW might these lessons be used in other Cities?

02

The case studies

WHY THESE CASE STUDIES WERE IDENTIFIED

The case studies in this collection were identified for their progressive actions tackling climate change and social equity simultaneously. The case studies represent a growing awareness among city leaders that climate action can only succeed if the issues of social and economic inequality are addressed. These case studies are diverse in geography and sector as well as stage of completion and are intended to showcase a variety of lessons from which other cities can learn.

Case study list

Cape Town, South Africa | Cape Town renovates for energy efficient homes and healthy residents

New York City, USA | New York City tackles the urban heat island effect in its most vulnerable communities

Barcelona, Spain | Barcelona plans for an environmentally just future

Sydney, Australia | Sydney builds trust with a unique community engagement strategy

Buenos Aires, Argentina | Buenos Aires strengthens natural resources to protect low-income communities

Los Angeles, USA | LA Provides access to affordable electric vehicle car sharing with BlueLA

Paris, France | Paris makes a fair energy transition by tackling fuel poverty and engaging its residents

CASE STUDY TERMS

The cover page of each case study includes a brief summary and a project information box including Case Study Type, ICA Pillar, Primary Sector, and Primary Impact. For the purposes of this document, these categories are:



Case Study Type refers to the scale at which the case study is applicable.



ICA Pillar signifies whether the inclusive aspects of the case study were most relatable to the case study Process, Policy, or Impact.



Primary Sector categorizes each case study by topic area.



Primary Impact highlights the main benefits delivered by the case study.

CITIES CAN LEARN FROM EACH OTHER

The case studies show five common lessons learned when undertaking successful inclusive climate action.

Climate action that addresses multiple community needs will have more success in getting support and funding. Low-income communities are often subject to ripple effects where the lack of resources means that they live in areas of the city with lower quality-of-life (e.g., less green space, lower air quality), cheaper housing (e.g., no insulated ceilings, no electricity), therefore suffering proportionally more from health issues. Climate action that goes beyond reducing GHG emissions and also addresses social issues will gain more support and more funding such as in Cape Town where funding for ceiling retrofits was available due to its dual impact of improving health and reducing energy consumption.

Cross-departmental coordination can increase efficiency and save resources. Climate action is an interdisciplinary task. The case studies show that a coordinated government effort helps cities save resources and also allows them to promote acceptance from different government agencies and stakeholders. Barcelona, for example, worked to include each initiative of the Climate Plan into strategic plans and budgets of responsible city departments. This way, responsibilities are clearly defined and resources are efficiently deployed.

Data analysis will help target the communities most in need and monitor an initiative's success. Today's widespread availability of data helps better understand the urban population. This allows a targeted approach to climate action that benefits those most in need. Data however also provides the means for continuous monitoring and learning. Working with a range of stakeholders, from community organizations as seen in Sydney to academia and research institutions like those in New York City, cities enhance their data sources as well as their analytical skills.

Public engagement needs to go beyond traditional town-hall style meetings and include everyone.

Climate action needs to have the support of everyone. New means of engagement that involve those typically left out of decision-making processes are therefore crucial. This could include unique methods such as targeted events to access marginalized populations in Sydney, diverse steering committees in LA, collaboration with citizen organizations that have access to the most vulnerable populations in Barcelona, or widespread volunteering programs in Paris. The effect is higher levels of trust in government and its actions.

Mayoral leadership is key to move inclusive climate action to the top of the agenda. As the case studies show, mayors can play a key role in promoting a more inclusive agenda when it comes to climate action. It is with strong mayoral support across the world that climate change's unfair impact can be promptly addressed and mitigated.

Cape Town, South Africa

Cape Town renovates for energy efficient homes and healthy residents

Cape Town’s climate can be moist and cold, making its residents susceptible to tuberculosis and other illnesses, especially in low-income neighborhoods where housing often lacks the proper insulation. The City of Cape Town realized that by focusing on retrofitting ceilings in low-income communities, they can achieve multiple benefits: improving the health of the communities and the energy efficiency of the buildings.

A Cape Town family receives a new insulated ceiling.



What are the key lessons learned?

Between the years of 1994 and 2005, Cape Town under the jurisdiction of national subsidized housing rules, built homes for its low-income communities without insulated ceilings. These homes are known locally as Reconstruction and Development Programme (RDP) homes. No insulated ceiling means that these homes do not maintain internal temperature well (they become very cold and humid in the winter and get extremely hot in the summer) making it difficult to sustain a healthy indoor environment. In Cape Town, nearly 32% of the population lives in poverty making RDP housing prominent and essential for its residents.

Not only is a lack of insulation detrimental to energy use and costs, it is a concern for the health of occupants. Communities in Cape Town are susceptible to tuberculosis, colds, and other illnesses due to the moisture levels and cold temperatures. These health risks are especially high in low-income neighborhoods where housing often lacks the proper insulation or plastering, leading to poor indoor thermal conditions and detrimental air quality. From 2001, the Western Cape Department of Health has been reporting that the number of tuberculosis cases is extremely high. Since then, they have been dedicated to reducing the number of cases significantly. Housing retrofits to improve insulation is a key aspect of this effort. To address health, energy, and climate simultaneously, pilot projects were initiated in 2010 to install insulated ceilings and proper exterior plastering in RDP homes. During initial phases of the project, the Energy and Climate Change Unit (ECC), within the Environmental Resource Management Department (now the

Sustainable Energy Markets’ Low Income Energy Services Branch), allocated resources to communities ensuring that funding would be sufficient to retrofit all homes within one community.

The pilot projects were a glowing success in these areas according to survey results from the communities. Results showed significant improvements in health, happiness, and economic mobility. The upgrades also resulted in significant reductions in energy and health care costs for the residents. The success of the pilot projects led to additional funding for the project from South Africa’s Green Fund that consists of national and international funding for projects that reduce GHG emissions and mitigate climate change. With additional funding, the City planned for and implemented a larger multi-community roll-out of the project. This phase consisted of 8,001 ceilings in communities on the outskirts of Cape Town.

Ultimately, Cape Town’s ceiling retrofit project was able to deliver energy efficient homes with reduced financial burdens on their residents. The addition of insulated ceilings dramatically changed the health and wellness of the inhabitants, reducing healthcare costs and increasing livability and opportunity. These results align with the City of Cape Town’s Strategic Focus Areas (SFAs) introduced in the five year Integrated Development Plan (IDP), especially the strategic focus areas of a Caring City (SFA 3) and an Opportunity City (SFA 1). This project delivered multiple benefits to Cape Town’s low-income communities and helped to meet the City’s goals for more integrated development.



Installing insulated ceilings in low-income homes in Cape Town can reduce the fuel used to heat homes by up to 74% in the winter. The ceiling retrofit project in Cape Town has included to date, the retrofit of 10,540 homes. It is estimated that the total impact of these retrofits so far will save approximately 7,400 tons of CO2 each year. With the full expansion of the program to 40,000 RDP homes, the City could see emission reductions of up to 28,000 tons of CO2 per year.



This project targets the low-income communities placed on the outskirts of Cape Town with many financial burdens including transportation, food costs, and energy costs. The ceiling retrofit program was created to improve the lives of these communities by reducing energy and healthcare costs through better thermal envelopes for their homes, providing more stable indoor temperatures and improved air quality.

Case Study Type: Project	Primary Sector: Energy and Buildings
ICA Pillar: Impact	Primary Impact: Health

How might these lessons be used in your City?

Address multiple challenges simultaneously to make the case for funding

Before the Cape Town ceiling retrofit project, city departments were aware of climate-related health issues. For instance, due to the city's Mediterranean climate and winter rains, many residents in Cape Town are susceptible to sickness due to the absence of proper insulation and plastered exteriors for their homes.

The City has had a painful history with tuberculosis due to these climate-related challenges. Both City Health and the Western Cape Department of Health have been vocal about working to reduce the number of cases and improve the health and wellness of its citizens. The awareness of the local climate's impact on Cape Town's people, especially when not protected from the cold and damp conditions, set the stage for the ceiling retrofit project.

The city of Cape Town has been a leader in climate adaptation and mitigation, implementing initiatives and joining global efforts to address the impacts of climate change. As it came to making the case for funding for the ceiling retrofit project, climate played a large role. Addressing the climate impact becomes even more important if taking into account the future demand for energy as the economic status in these communities improves. For these communities, energy costs make up a significant proportion of a household budget, especially in the winter months, and health care costs can cause unexpected financial stress. With ceiling retrofits and reduced energy and healthcare costs, these households experience improved indoor air quality and have the ability to afford additional appliances or equipment for more comfortable indoor temperatures. More efficient homes will make a significant difference now and also in the future when these households have more financial resources that will lead to higher energy consumption.

Ensure new buildings are built to standard before retrofitting old ones

The ECC (now the Sustainable Energy Markets [SEM] Low Income Energy Services Branch) secured funding for the ceiling retrofit project and brought the project to fruition. On the ground, the ECC was familiar with the negative impacts the RDP homes were having on communities and recognised that this was a serious problem that needed greater attention. The team brought awareness to national levels of South Africa that the housing subsidies did not cover the installation of insulated ceilings or exterior plastering that was necessary to keep energy costs down and health and wellness improving. In their experience, it is much more costly to retrofit the existing homes



than it is to design and build homes with these components in the first place. In 2015, the RDP subsidy regulations were updated nationwide. Now, all new low-income housing will be built with properly insulated ceilings and plastering while existing buildings will be able to secure funding for ceiling retrofits.

Pilot a project to better understand the needs

To jump-start the ceiling retrofit project, two main pilot projects were completed. One pilot was led in Mamre by the ECC while a second was led out of Kuyasa by the NGO SouthSouthNorth (SSN) with oversight by the ECC. The Mamre pilot covered 240 ceiling retrofits and was conducted in 2010. It was a R1.9 million investment funded by the Danish International Development Assistance (DANIDA) Urban Fund and included the support of the wages for 20 temporary workers from the Mamre community to help implement the pilot project. These jobs were facilitated through the national Expanded Public Works Programme (EPWP), coordinated by the national Department of Public Works (DPW), where a selection of projects must provide temporary employment for unemployed citizens. In this program, municipalities submit requests for funding through DPW and if successful, must report regularly on progress and employ locals based on available funding and criteria such as gender, race, age group, and skill level.

The Kuyasa pilot program, located in the Khayelitsha area, covered 2,300 homes and was conducted between August 2008 and October 2010. This pilot integrated ceiling retrofits and plastered exteriors with solar water heater installations in addition to improved electrical wiring for energy efficient lighting. This pilot program was funded through the Department of Environment and Tourism’s Social Responsibility Programme and the Provincial Government’s Department of Housing^[2] and led by the NGO SouthSouthNorth.

As a part of this pilot, nearly 2,350 people were provided with temporary jobs ranging from clerical roles to semi-skilled, skilled, and supervisor positions^[2].

Ultimately, surveys showed that participants in this pilot program preferred building retrofits such as the insulated ceilings and plastered exteriors to the solar water heaters. The solar water heaters require proper installation and operation or else they are at risk of failure, which was the case for some program participants who received faulty equipment. With leaking and malfunctioning water heaters, the homeowners were at risk of having their ceilings cave in from the water damage and weight of the water heaters. The City of Cape Town learned from this pilot that investment should focus on ceiling retrofit efforts.

Retrofits for meaningful community impacts



Safer and healthier living conditions



7,400 tons of emissions avoided



Reduced healthcare and energy costs

Ceiling retrofits, plastered exteriors, solar water heaters, energy efficient lighting



Roll-out project
Across more communities



Pilot a project
Gain knowledge and expertise



Ensure new building standards
Before retrofitting old ones



Local hiring:
Providing community members with training and work experience



Community surveys:
Measuring impact for additional funding



Smart living:
Educating community members on maintenance and sustainability

Kuyasa Community

The Kuyasa community is nestled in a township settlement called Khayelitsha located southeast of Cape Town. As a township of predominately informal housing, the exact population of Kuyasa and other similar townships is difficult to estimate. It is however approximated that 32% of the population in Kuyasa live in shacks while others live in housing made of cement block or brick. Demographically, the majority of Kuyasa's population is made up of black Africans where the head of the house averages 40 years old. Kuyasa is located 30 km outside of Cape Town's city center and is devoid of public transportation making it difficult to travel to and access jobs and other amenities. There is a heavy dependence on minibus taxis for travel due to the ageing and unreliable rail network. The Khayelitsha area is vulnerable to heavy rain storms, high winds and fires, and wet and cold conditions. Furthermore, the population in Kuyasa is faced with high rates of tuberculosis, HIV/AIDS, asthma, and influenza^[3]. In addition to being a low-income community with predominately unemployed communities, this area has many other economic, social and environmental challenges and obstacles to overcome. Many of these challenges are alleviated through holistic programs like the ceiling retrofit project.

Secure a project champion for growth and success

Following the pilot projects and a lengthy search for additional funding, the team was able to secure funding from South Africa's Green Fund^[4], which collects capital from national and international organizations for funding projects with climate mitigation potential. Once the project had secured external funding, the City of Cape Town would typically provide 10% of the project cost. However, in this case, the city provided more funding than required, understanding the importance of the project.

The ECC as well as City Health and Sustainable Energy Africa (a not-for-profit which has worked extensively in low income energy service) led the effort to get the ceiling retrofit project off the ground, championing its success. The group brought together the necessary stakeholders, identified the target communities for the project, based on the funding available at that time, and organized the implementation of the project. Not long after the project's pilot phase was completed, Mayor Patricia de Lille took notice of the pilot projects, celebrating the success and congratulating the team on a well done job. Going forward, she took a front seat in helping to progress the project for the large roll-out to 8,001 homes.

Teach communities how to maintain systems and live smart

The additional funding through the Green Fund allowed the project to install another 8,001 ceilings in new communities including Gordons Bay, Macassar, Wesbank, Sir Lowry's Pass Village, and Chris Nissan Village. In this phase of the project, a portion of the funding was allocated for education and training. This effort was two-fold, both educating the community on how to install and maintain new ceilings, and also educating recipients on how to live more healthy and sustainable lives.

The workforce training and development was organized and led in conjunction with National Urban Reconstruction and Housing Agency where there was a focus on selecting a diverse group, including women and younger individuals. Data from the workforce program show that of the 89 trainees, 51 were women and the majority were younger individuals, who would build up work experience through the program.

As part of receiving a newly insulated ceiling and plastered walls, community members were given "Smart Living Training" which shared best practices for cooking, ventilating, heating homes, and other related activities. The training was supported by the Smart Living Handbook which guides Cape Town residents in resource-efficient, sustainable daily practices around water, waste, energy, and biodiversity^[5]. The intention was to raise awareness of the impacts the retrofits would provide and the opportunities these communities could take advantage of.

Additionally, during the pilot phases, recipients were given "Wonder Bags" and during the large roll-out they were raffled out to a handful of winners. The Wonder Bags act as insulating covers for pots and other cooking vessels to keep in heat and act as a slow cooker for up to eight hours without fuel use^[6]. These products allow individuals to significantly reduce the amount of paraffin and other harmful cooking fuels needed on a daily basis helping to improve the indoor air quality of homes and the health of residents. The ceiling retrofit program was built on the understanding that to fully realize the benefits of the retrofits, the residents of these low-income communities needed to be exposed to the impacts and opportunities and informed of how to properly maintain their new equipment.

Smart Living Handbook

The Smart Living Handbook^[7] is supported by the Environmental Resource Management Department and was initially created by AMATHEMBA Environmental Management Consulting and Sustainable Energy Africa. The handbook is used in many projects in Cape Town as a resource for educating communities on how to live sustainable lives covering topics including waste, energy, water, and biodiversity. The handbook not only instructs households on how to act more sustainably with practical steps for implementation but also educates communities on the challenges associated with these resources and what the City is doing to manage them. The Smart Living Handbook is a valuable resource for ensuring that communities understand the benefits of climate action and their own personal responsibilities for addressing climate change.

Project milestones



Evaluate the impacts

Each of the pilot projects and the larger project roll-out involved a survey process to better understand the projects' impacts. As part of the Mamre pilot project, the City of Cape Town and the International Council for Local Environmental Initiatives (ICLEI) Africa engaged nearly 140 of the 240 households in surveys^[8]. For the Kuyasa pilot, with help from the UK Government's Foresight Project, Migration and Global Environment Change group, more than 1,800 households were engaged in surveys. Finally, as part of the most recent roll-out initiated in 2014, the City of Cape Town and Thrie Energy Collective engaged 1,100 households^[9]. These surveys collected information from community members on topics such as heating and fuel expenses, incidents of sickness, number of days missed at work due to sickness, and more.

The findings in each case were significant – clearly illustrating a positive impact in each of these communities. The residents of these low-income communities were healthier, happier, and more economically active due to improved health and a smaller energy cost burden. The level of joy felt by the community was unexpected and immense.

Grow programs for larger impact

In Cape Town, there are still approximately 40,000 RDP homes in need of ceiling retrofits and other energy efficiency improvements. The Sustainable Energy Markets (SEM) Low Income Energy Services Branch (previously the ECC) continues to look for funding opportunities and creative ways to progress this project and its impactful work. The nature of such a project is that the retrofits are not cheap and require significant investment and labor which the City believes will come in due time. As the SEM Low Income Energy Services Branch looks to secure additional funding, monitoring and surveying will continue to be done in these communities for a more extensive understanding of the long-term impacts of the projects. Through previous efforts, it is clear that these seemingly simple retrofits make an enormous difference to the RDP housing communities like Mamre, Kuyasa, and so many more in Cape Town.

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New York City, USA

New York City tackles the urban heat island effect in its most vulnerable communities

Through in-depth research and data analysis, New York City has found that historically marginalized neighborhoods are the most impacted by heat-related effects of climate change. Building on existing efforts, the Mayor’s Office of Recovery and Resiliency released the Cool Neighborhoods strategy that shows a coordinated approach to cooling vulnerable communities through a series of initiatives and a strong commitment to monitoring.

Community members volunteer to paint roofs white.



What are the key lessons learned?

More New Yorkers die from heat-related effects than any other natural occurrence. That being said, not all neighborhoods are affected in the same way by climate-related issues. Data patterns in NYC show that the neighborhoods most vulnerable to extreme heat align with those neighborhoods that have been historically marginalized. These neighborhoods and their residents typically lack the resources to keep cool and comfortable in summer months. Without the necessary resources, these neighborhoods are increasingly vulnerable to rising temperatures and extreme heat days. Fortunately, there are proven strategies to mitigate urban heat risks. Cool Neighborhoods, a program from New York City, created a range of initiatives to help its most vulnerable communities mitigate the effects of heat and improve livability, health, and wellness.

The NYC Mayor’s Office of Recovery and Resiliency (ORR) released the Cool Neighborhoods report in 2017 to share targeted initiatives designed to help its most vulnerable communities adapt to and mitigate heat effects. The goals of the Cool Neighborhoods program include:

- 📌 **Keeping New Yorkers safe on hot days:** to reduce heat impact and heat-related deaths through awareness and support.
- 📌 **Making surfaces more reflective:** to absorb less heat and reduce the local ambient air temperature.
- 📌 **Adding vegetation:** to increase evapotranspiration and reduce ambient air temperatures and improve air quality.

The program was informed by a study conducted by researchers at Columbia University and the Department of Health titled “A Case-Only Study of Vulnerability to Heat Wave-Related Mortality in New York City”. The study spatially analyzed climate and health-related vulnerabilities in NYC and developed the Heat Vulnerability Index (HVI); an index which enabled the identification of areas most at risk in the city.

A key objective of the Cool Neighborhoods program was to raise awareness of available initiatives and aid targeted communities through the implementation of the proposed strategies. The City determined that it was important to have trusted messengers from the community to ensure that the communities would listen to and adopt the messages. Through engaging with community-based organizations, the City works with community institutions such as religious centers and schools, as means of community outreach and education.

One of the most important components of the program is the efforts on monitoring. The Cool Neighborhoods program introduces several strategies to collect, analyze, and monitor data in order to better understand and track heat vulnerabilities in NYC. Not only do these strategies help to understand the impacts, they also help to make the argument for future funding and program expansions.

Climate

As a part of the City’s larger OneNYC effort and the commitment to reducing GHG emissions by 80% by 2050, Cool Neighborhoods NYC tackles heat adaptation and mitigation in NYC. Through tree plantings, low albedo pavements and rooftops, and raised awareness of heat risks, the City is working to reduce local ambient temperatures and heat related deaths in the City.

Inclusivity

Before the Cool Neighborhoods program, several heat adaptation and mitigation initiatives existed however, they were only accessible to those who were aware of their existence and understood the process. A major objective of Cool Neighborhoods is to connect existing initiatives with the City’s most vulnerable communities to heat stress and to create new initiatives with a specific focus in these neighborhoods.

Case Study Type: Program	Primary Sector: Adaptation
ICA Pillar: Impact	Primary Impact: Health

How might these lessons be used in your City?

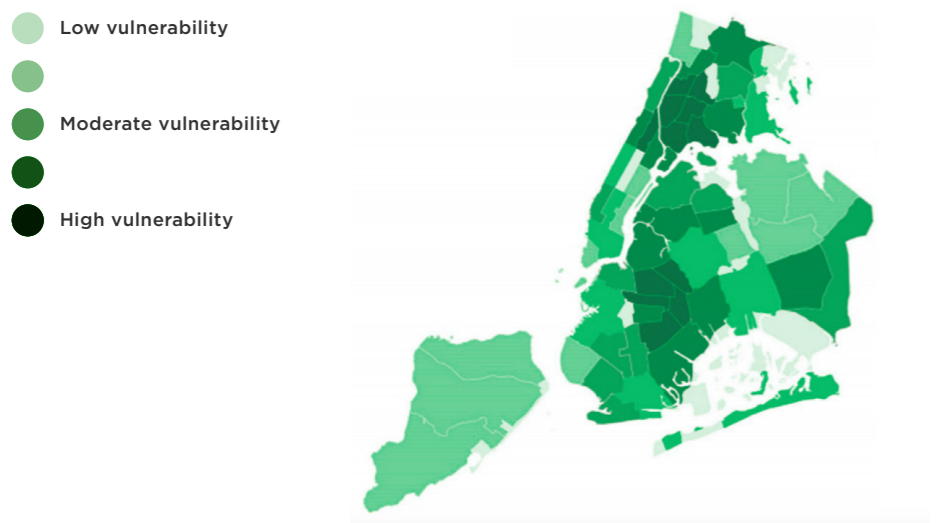
Identify those most vulnerable to climate events and those most in need of support

On any given day, New York City’s Mayor’s Office of Recovery and Resiliency (ORR), Emergency Management Services, and Department of Health, among other agencies, are working to protect New Yorkers from climate risks. To be able to allocate resources effectively, it is key for the City to understand who and where the most vulnerable populations are. The Cool Neighborhoods strategy used findings from the report “A Case-Only Study of Vulnerability to Heat Wave-Related Mortality in New York City”^[21] as a basis for identifying heat vulnerability in NYC. The report defined and mapped the Heat Vulnerability Index (HVI), or a composite score based on certain variables, including daytime summer surface temperatures, the amount of green space, poverty, and race.

Heat Vulnerability Index

As defined in “A Case-Only Study of Vulnerability to Heat Wave-Related Mortality in New York City,” the Heat Vulnerability Index (HVI) began the conversation around who in NYC is most vulnerable to climate events based on health and social parameters. In mapping the HVI, the researchers analysed census tracts across the City as the basis for the index. Each census tract in the US is monitored with updated demographic and economic data for populations every ten years. The HVI is essentially a composite score calculated for each census tract based on: the proportion of homes receiving public assistance (low-income), the proportion of non-Hispanic black residents, the proportion of overall deaths occurring in the home, the relative surface temperature, and the proportion of trees. The HVI is intended to provide a quick assessment of which areas in NYC are most susceptible to climate events and least likely to recover quickly or receive the resources and assistance they need.

The Cool Neighborhoods strategy used the Heat Vulnerability Index to determine where initiatives should be targeted for the residents that are most vulnerable. Ultimately, NYC’s most heat vulnerable areas include the South Bronx, Northern Manhattan, and Central Brooklyn, as shown in the map below^[21].



Get buy-in from multiple stakeholders

Beginning in 2015, ORR began to formulate a plan that would later become Cool Neighborhoods NYC through facilitated engagement with an Urban Heat Island Mitigation Working Group. The working group was made up of agency representatives, community organizations, and researchers, who helped the City identify and select heat-related strategies. In developing strategies, the working group first took inventory of existing City agency initiatives that could be supported or added to with the Cool Neighborhoods effort. This collaborative cross-agency approach helped to create a holistic and coordinated solution to heat impacts in NYC.

ORR crafted the policy behind Cool Neighborhoods NYC with a variety of City agencies, including NYC Parks, the Department of Health, Small Business Services, and Emergency Management, who were responsible for implementation. Each initiative began with understanding the context and the data as it relates to vulnerability.

Make community outreach a key component

The next step for each initiative was outreach and engagement. A key priority for Cool Neighborhoods is to ensure that residents in these communities know what resources are available and that they are actively engaging in the initiatives. Some of the Cool Neighborhood initiatives are solely focused on community engagement and outreach such as Be a Buddy NYC, climate risk training for home health aides, and the engagement with health and weather reporters to ensure proper messaging of heat risks and protection. Be A Buddy, for example, creates a network of volunteers who will check in on residents, particularly the elderly, during heat waves and refer them back to City services. While the more physical initiatives range from planting trees to coating roofs.

NYC °CoolRoofs

Launched in 2009, the NYC °CoolRoofs initiative pre-dated the Cool Neighborhoods effort. However, as part of the Cool Neighborhoods strategy, the program will target heat vulnerable neighborhoods for the next few years. The initiative, led by the NYC Department of Small Business Services, provides the opportunity for building owners to have their roofs coated with a white, reflective coating at no cost to little cost, depending on the building use type. The white coating can reduce internal building temperatures by up to 30% during warm months and reduces cooling energy needs and costs within the building. As a part of the initiative, the City hires local New Yorkers and trains them as a way to engage communities. The main annual goals of the initiative are to coat 1,000,000 square feet of rooftops, train 70 workforce participants for 10 weeks, and host multiple “Community Coating Days” to provide opportunities for the public to volunteer. As of Summer 2017, the NYC °CoolRoofs initiative has coated 6,730,299 square feet of roofs, engaged 5,934 volunteers, and saved nearly 2,680 metric tons of CO₂ emissions^[3].

Using data to help vulnerable communities



2,680 tons of emissions avoided



Increased social cohesion



Reduced overall energy costs



Be a Buddy NYC and Climate Risk Training for Home Health Aides

The Be a Buddy and Climate Risk Training for Home Health Aides initiatives were introduced with the release of the Cool Neighborhoods report. These initiatives were created as community resources to ensure that general community members and professionals alike, are aware of heat risks and are equipped to help. Through Be a Buddy NYC, the City is promoting social cohesion. Partnering with community-based organizations, the City is developing a new support infrastructure focused on extreme weather preparedness, safety messaging, and check-ins to help those most at risk during extreme weather events. The Climate Risk Training for Home Health Aides uses courses and training materials to provide continuing education to home health aides, ensuring they will become better prepared to recognize and address early signs of heat-related illness. Both initiatives mobilize community members to look out for each other in the case of extreme heat events.

The program will include data collection and analysis to better understand the effects of each initiative. Based on the results, the City will be able to assess which projects warrant further funding and what improvements might be taken for each project in future rounds of implementation.

Monitor data for continued program improvement

A major component of the Cool Neighborhoods program is to monitor, collect, and assess existing and new climate and health-related datasets in NYC. This includes measuring neighborhood-level temperatures, modelling scenarios to show the effects of green infrastructure and other interventions, collecting updated LiDAR survey data for NYC for more accurate 3-D topographic and vegetation-based mapping. Another benefit to monitoring such datasets is that it prepares the City for future funding requests and allows them to be vigilant about which neighborhoods are most vulnerable and most at risk to heat events.

Coordinate already existing efforts

Acting as an umbrella effort overseeing multiple initiatives, ORR utilized existing and available funding for the Cool Neighborhood program.

The entire Cool Neighborhoods effort was supported with a dedicated \$106M investment from the City.

What makes this program particularly exemplary is its push for City agency collaboration around a common goal of addressing heat vulnerabilities and extending outreach. This effort, while essential, was no small feat and continues to be a challenge as each agency has its own priorities and urgencies.

Project milestones



Listen for feedback

Community-based organizations on the ground, who have years of experience engaging with these communities, keep the City accountable to delivering quality impacts. As Cool Neighborhoods continues to progress, the data collected and analyzed will allow the City to be better informed to make more effective decision-making.

ORR and relevant agencies look forward to continued support for the initiatives and potential expansion of some of the initiatives. Continued monitoring remains critical to the ongoing success of the initiative. Up to date data will allow for more accurate and timely evidence-based decision making. The community-focused mission of Cool Neighborhoods is dedicated to improving New Yorkers' livelihood and safety and will continue on with further program expansion, climate and health data monitoring, and growing community awareness and engagement.

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Barcelona, Spain

Barcelona plans for an environmentally just future

Climate action plans represent the motivation and priorities for a city's actions on climate adaptation and mitigation. Barcelona published its new Climate Plan in 2018 with a strategic focus on environmental justice and citizen co-production. This sets the stage to implement inclusive climate actions that not only address climate challenges, but also socio-economic inequality, providing benefits for all Barcelona residents.

Co-production as part of the Barcelona Climate Plan.



What are the key lessons learned?

Studies undertaken prior to the development of the Climate Plan 2018-2030 have shown the uneven distribution of the impact of climate change among the population. The 2016 Barcelona Health Survey, for example, found that over 10% of the population in Barcelona experiences energy poverty [1]. Other studies showed that elderly people, young children, and women particularly suffer from the impact of heat and rising temperatures. Similarly, certain neighborhoods and geographic areas are more severely impacted by the effects of climate change than others.

In order to address these uneven impacts, Barcelona decided to put climate justice at the core of its new Climate Plan, concentrating on inclusive actions that serve all Barcelona citizens, but particularly focusing on those most vulnerable.

Under these five areas of action, the Plan lays out 18 lines of action under which there are 242 direct actions.

While the theme of climate justice runs through all of these 18 lines of action, the People first area sets out very specific lines of actions to address the uneven impacts:

- 🚩 **Taking care of everyone** focuses on improving and adapting services, facilities, and homes with special care for those most vulnerable to climate change.
- 🚩 **No cuts** aims to prevent gas, water, or electricity supplies from being cut off, especially for the most vulnerable groups.
- 🚩 **Preventing excessive heat** concentrates on creating a network of places to take shelter during high temperatures to protect the health of the most vulnerable groups in the city.

The five areas of action in the Plan reinforce this focus on climate justice: (1) people first, (2) starting at home, (3) transforming communal spaces, (4) climate economy, and (5) building together.

While the city of Barcelona receives some funds from the European Union and some from private funders, most of the climate actions within the plan are paid for via the city's budget. The Climate Office in charge of developing the plan involved four departments: the Sustainability Office, the Social Rights Office, the Energy Agency of Barcelona, and the Resilience Department. In addition, other departments were involved on a subject matter basis where the individual departments fund the actions outlined in the Plan.



Barcelona's Climate Plan encompasses both climate mitigation and adaptation. To mitigate climate impacts, the city commits to reduce greenhouse gas emissions by 45% per capita by 2030 (compared to 2005 levels) and to be emission-neutral in 2050. Climate adaptation is, among others, tackled with a proposal to increase total urban green space by 1.6 km² (or 1 m² for each current resident). The Climate Plan is one of the first action plans in the world to comply with the Paris agreement.



Barcelona's Climate Plan is structured along four themes: mitigation, adaptation and resilience, climate justice, and citizen action. Putting climate justice and citizen action at the core of its plan ensures that actions are not only addressing climate change, but are focused on issues like social inequality and vulnerable populations. The City believes that the transition to a zero-emission city will only be possible if social cohesion and social justice are enhanced. Therefore, the investments laid out in the plan will create new economic opportunities for the most vulnerable citizens and neighborhoods.

Case Study Type: Plan	Primary Sector: Urban Planning
ICA Pillar: Policy	Primary Impact: Quality of Life & Urban Livability

How might these lessons be used in your City?

Build a plan that supports everyone, and focuses on those most vulnerable to climate change

Most climate action plans today focus their actions on mitigation and adaption. Themes like climate justice and citizen participation are however still relatively new. If these themes are integrated into climate action plans, they are often buried somewhere in individual actions. Barcelona took a different approach: climate justice and citizen action build, with mitigation and adaption, the four overarching themes of the new Climate Plan 2018-2030. This sets the tone to put those population groups and neighborhoods most impacted by climate change at the center of Barcelona’s Climate Plan. The following three examples demonstrate how this is translated into specific actions.

Climate Shelters

The climate shelters effort is an action included under the “preventing excessive heat” line of action. The City aims to ensure that 100% of the population is within a 10-minute walking distance of a climate shelter by 2030. In order to achieve this, the city is currently undertaking a data gathering exercise, mapping all potential shelters including parks with enough shade, air-conditioned malls, civic centres, public libraries, etc., and their accessibility (e.g., operating hours, geographic location, available facilities, access for those with limited mobility). Once mapped, the city will assess the gaps in coverage and will decide where new shelters might be created. In order to make the information about these shelters available to those most vulnerable to heat like the elderly people, the city will use its network of health centres and other social organizations, but also private businesses like pharmacies or neighborhood shops and mobile shelters.

Social Superblocks

Barcelona has had success with mobility superblocks that establish a new way of organizing the city. These superblocks redefine street networks, prioritizing people over vehicles by providing different street typologies and introducing diverse facilities like resting places and space for social interaction. Similarly, Barcelona is implementing an action for social superblocks. This action falls under the line of action “taking care of everyone” and aims to dispatch home care workers in smaller groups and smaller areas to be able to provide services on a more flexible basis. By the numbers, Barcelona has nearly 4,000 home care workers that will be dispersed in neighborhood teams of 10 to 14 workers who will care for 50 to 70 dependant neighbours (especially elder people) who live within a small area (2 to 5 minute walking distance, up to 500m). The intention of the social superblocks is to create a tighter sense of community as social service recipients see the same faces on a regular basis and can develop trust with the social workers in their area. The social superblocks do not match the boundaries of the mobility superblocks, but instead are based on an



analysis of the socio-economic status of the population. In low-income neighborhoods where the need for social workers is greater, there will be smaller social superblock boundaries than in higher income neighborhoods. Further, this new organization of services at a small scale is able to integrate more agents for more innovative services, since proximity allows creating new interactions based on trust and complexity. For instance, local shops can deliver goods and take waste away as a service and therefore increase the use of multiuse packaging.

Energy Advice Points

The City Council has spearheaded Energy Advice Points, specialist offices where the public receives information and assistance for exercising their energy rights, avoiding a supply cut or re-establishing supply, and reducing energy expenditure. This action falls under the “no cuts” line of action in the Plan. With the goal of zero energy poverty by 2030, this program also aims to educate the public on energy consumption, energy efficiency, and energy bills through a set of tools and best practices. The City Council has created and shared an energy calculator which allows individuals to evaluate how much energy they are consuming and how it might be reduced. They’ve created energy efficiency best practice guidance for implementing changes within the homes to reduce energy consumption and costs. They are also beginning to work with residents on better understanding their energy bills and to ensure that there are no cuts in their power or water services. This program is centred around empowering the citizens of Barcelona to better understand energy and ultimately make more sustainable decisions, such as installing renewable energy sources for their buildings. At the beginning, vulnerability was the target of the Energy Advice Points, especially to provide information and help in regards to energy rights and citizens’ access to basic services. Recently, the success of these help desks led to the expansion of the program to include more energy-related issues such as providing support to citizens to apply for financial aid when undertaking energy upgrades. The outcome has been very positive as 23,000 people attended Energy Advice Points events in 2017.

Coordinate your efforts across city departments and ensure actions are implemented within each department’s budget and plan

This Climate Plan is not Barcelona’s first attempt to tackle the issue of climate change. It is based on nearly 35 previous plans that are related to climate mitigation and adaptation and therefore builds on existing efforts. This means that the Climate Office in charge of developing the new Plan worked hard to coordinate with the different departments and ensures that each action is integrated in the strategic plans and budgets of each department responsible to implement that action. This also required lobbying across the different departments. Ultimately, those responsible for the development of the Climate Plan met with over 130 city administrators from individual departments to put the Plan together.

Climate justice at the heart of the planning process



Reduce emissions by 45% by 2030



No cuts to energy services



Sheltering networks for excessive heat





Climate office
Establish City administration to monitor and implement the Plan



Department coordination
Integrate each action into strategic plans and budgets



Community outreach
Work with NGOs, community organizations and private businesses



Mitigation and adaptation
Planning and coordinating a more climate resilient city



Climate justice
Enriching climate plans by prioritizing vulnerable people



Citizen action
Making a climate commitment while promoting co-production

The development of the Plan also included an extensive community outreach process. The Climate Office was aware that those most vulnerable to the impacts of climate change might not necessarily be the ones taking part in participatory planning processes. It therefore worked closely with non-governmental organizations, social associations, and private businesses, who already work with those vulnerable groups, to identify their needs and target their actions. The participatory process ran from July to December 2017 where 92 different people from different organizations participated in an introductory session, a face-to-face session on action proposals, a public open session, and a final session to present the Climate Plan in February 2018. A digital platform has been used for further engagement^[2]. Throughout the process, nearly 112 contributions were made and 85% of them were accepted into the final Plan.

Project milestones



Get organized to implement the climate action plan and monitor its success

In order to implement the Climate Plan, one line of action focuses specifically on how to organize the city in order to successfully implement the plan. This includes the establishment of a climate office within city administration to monitor the implementation of the Plan, the establishment of internal coordination mechanisms for ensuring that information is shared across city departments, and the establishment of necessary external communication and coordination with key city players and the community. One particular community group that was instrumental to the development of the Plan was the Citizen Council for Sustainability, founded in 2001, and its network of more than 1,000 organizations (schools, companies, universities, etc.) with the aim of creating citizen-initiated climate action projects.

To measure the success of implementation, the plan also outlines indicators to be monitored for each line of action. As part of the Covenant of Mayors for Climate and Energy agreements from 2017, Barcelona must monitor and report progress related to climate action. Driven to track and assess the progress of the Plan, the city is evaluating various indicators including impact, action, resource, environment, perception, and performance indicators. The city will publish annual progress reports sharing with the community the impacts to date and a new perspective on what's left to do.

Monitor implementation to meet targets

It remains to be seen how successful the city of Barcelona is in addressing social inequality and environmental justice issues, but the fact that the city has recognized the importance of these issues and has put them at the forefront of its Climate Plan is a critical step forward. Closely monitoring the implementation of this plan, the city will be able to continue targeting its efforts and adjust its actions to create a more equitable city.

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Sydney, Australia

Sydney builds trust with a unique community engagement strategy

Effective mitigation and adaptation to climate change only happens with the broad support of the population. To address this, Sydney has created a unique community engagement approach with a centralized Community Consultation group involved in every project and with methods targeting those that traditionally do not take part in participatory processes.

Project planning with input from and consultation with community members



What are the key lessons learned?

Community engagement is an important process for involving people in the decisions that affect their lives. It is often a legislated requirement of the decision-making process. However, it often attracts those that are already well informed on the topics, well positioned in the community, and equipped with the resources to attend outreach events and voice their opinions. Sydney is taking community engagement to the next level through an innovative and welcoming community engagement strategy that is equally practical, successful, and inspirational.

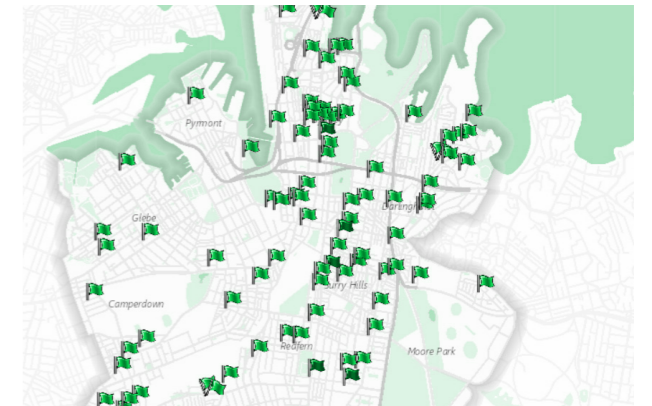
With a new approach to community engagement and backed by the Lord Mayor's support, the City hoped to engage citizens and elicit feedback and suggestions for the City's vision and for other policies and programs addressing the City's strategic directions such as reducing greenhouse gas emissions, improving housing affordability, mitigating traffic congestion, and more.

The City approaches community engagement with four principles in mind: Integrity, Inclusiveness, Dialogue, and Influence. With centralized resources and a vision forward, the City undertakes engagement across five tiers each depicting increasing influence that the public can have on an outcome (based on the International Association for Public Participation's IAP2 spectrum of public participation)^[1]: inform, consult, involve, collaborate and empower.

Upon completion of any community engagement process, the City collects information on the success and effectiveness of the engagement and provides feedback to participants on the results of their contributions. Reports on the

process are provided to the public via the website sydneyyoursay.com.au categorized by project. By taking the time to reflect on the community engagement process, the City is able to better understand what works and what needs to be reworked for the next project.

Sydney has identified that their community engagement strategy has a profound impact on citizens. In a previous engagement effort, 96% of participants reported their expectations were met and would participate again in a similar process while 80% believed their contribution would make a difference. These impacts demonstrably led to increased connectivity and trust in the government and its decisions and increased civic equity so that people feel their individual opinions are being heard and are influencing city decisions.



Location of Sydney projects each with local engagement.







Climate

The City's approach to community engagement has ensured citizen input into important climate and sustainability policies that are often considered the domain of experts. This creates broad buy-in to the City's ambitious sustainability targets and policies and reduces polarized debates. One example of making the community's support for climate action clear through engagement in policies development, is the icons in the City's Climate Change Adaption Plan that indicate 'this idea came from the community.'



Inclusivity

Sydney's community engagement framework aims to strategically involve each and every one of the City's diverse communities such as the Aboriginal communities, tenants of social housing, youth and older populations, residents with disabilities, among others. These communities take part in urban planning and policy-making through engagement across multiple, carefully planned methods that are always evolving to represent best practices and lessons learned.

Case Study Type:  Guidelines	Primary Sector:  Urban Planning
ICA Pillar:  Process	Primary Impact:  Quality of Life & Urban Livability

How might these lessons be used in your City?

Develop a set of principles to engage the public

The City of Sydney Community Engagement Strategy^[2] was adopted in 2014 to support the implementation of Sustainable Sydney 2030. The strategy formalized a strong engagement practice that developed out of the large-scale consultation process conducted during the creation of the Sustainable Sydney 2030 plan. The engagement strategy is focused around three main objectives:

- ☑ **Provide opportunities** for communities to take part in the City of Sydney’s decision making process for outcomes that benefit the community.
- ☑ **Provide a strong foundation** for understanding and working with the communities – promoting a shared responsibility for decisions and trust in the decision making process.
- ☑ **Develop a sustained collaboration**, partnerships, and new ways to involve and empower the community to achieve Sustainable Sydney 2030.

Guided by these objectives, the City developed a process for open, inclusive, and iterative community engagement. Before any project begins engagement, a rigorous data collection and planning phase is conducted to determine what the proper methods are for engagement based on the project and its goals.

Adapt your engagement methods based on the target audience

Often there will be targeted engagement where certain groups are identified as important to a project and advisory panels are called upon (for example: the Aboriginal and Torres Strait Islander advisory panel, the retail advisory panel, or the inclusion [disability] advisory panel).

Aboriginal and Torres Strait Islander Advisory Panel

The Aboriginal and Torres Strait Islander Advisory Panel^[3] is made up of community members and industry professionals, alike, with Aboriginal and Torres Strait Islander backgrounds who live, work or study in the local area. This advisory panel meets six times a year and is called upon for advice on matters of importance to Aboriginal and Torres Strait Islander communities. This group, for example, consulted with the City on new signage for City parks. With the input and support from this advisory panel, community members and Elders, and City staff, new signage was agreed upon. The new signage would be inclusive of the indigenous Gadigal language in an effort to acknowledge, share and celebrate the languages and cultures of the aboriginal people, native to the area.



Identify representative forms of engagement

Most engagement, however, is intended to represent the diversity of the City's population through wider and more inclusive methods such as random selection for surveys or focus groups. For example, the City recently completed a consultation process on updating Sydney's Development Control Plans (DCP). During the process, there was an awareness that the 18 - 35 year old residents should be specifically targeted as they are not often engaged and are less likely to use traditional channels for engagement. Engagement methods used to engage this group included online surveys (with 10,000 completed in a matter of weeks) through the sydneyyoursay.com.au website or through the Sydney Your Say app^[4], and pop-ups in neighborhoods with a predominantly younger population. A unique aspect of this engagement was the self-directed consultation conducted by private venues. With the support of City-generated guides, these venues would invite people in for beers and a talk to have their own conversations, sharing findings with the City through completed surveys.

Following this approach, the community engagement strategy has been particularly applied to climate action and sustainability planning as described in the following examples.

Sustainable Sydney 2030 – People's Summit on Social Sustainability

Following Sustainable Sydney 2030, the City led an engagement process to gauge people's thoughts and opinions on social sustainability in Sydney. The engagement process sought out feedback on Sydney's social sustainability policy, A City for All, for determining and directing the creation of the Community Engagement Strategy. The community engagement process included a City Talk event, a major workshop with community groups, government organizations, and industry groups, and the engagement of children through pop-up information sessions and an online engagement including a kids-say page. The engagement process concluded with a People's Summit to determine how to act on the community's feedback and to agree on ideas that the City could turn into actions. This feedback was then used to engage the community further on the Sustainable Sydney plan and to create the Community Engagement Framework for future engagement.

Climate Change Adaptation Plan

In order to address the impacts of climate change, the City has developed a Climate Change Adaptation Plan with a high level of community engagement. The plan was drafted through an internal assessment, identifying and ranking climate risks as well as projecting changes and the impacts. For each climate risk, the internal assessment resulted in a series of actions. Enacting community engagement, the City randomly selected 30 community members for a two and a half day deliberative democracy citizens' panel to review the climate risks and actions and add additional risks and actions. The group also identified principles around vulnerability to guide the policy and actions. As a measure to illustrate the impact the community input had on the Plan, the final write-up incorporated green indicators next to each action that the group directly influenced, suggested, or supported.

A centralized approach to community engagement



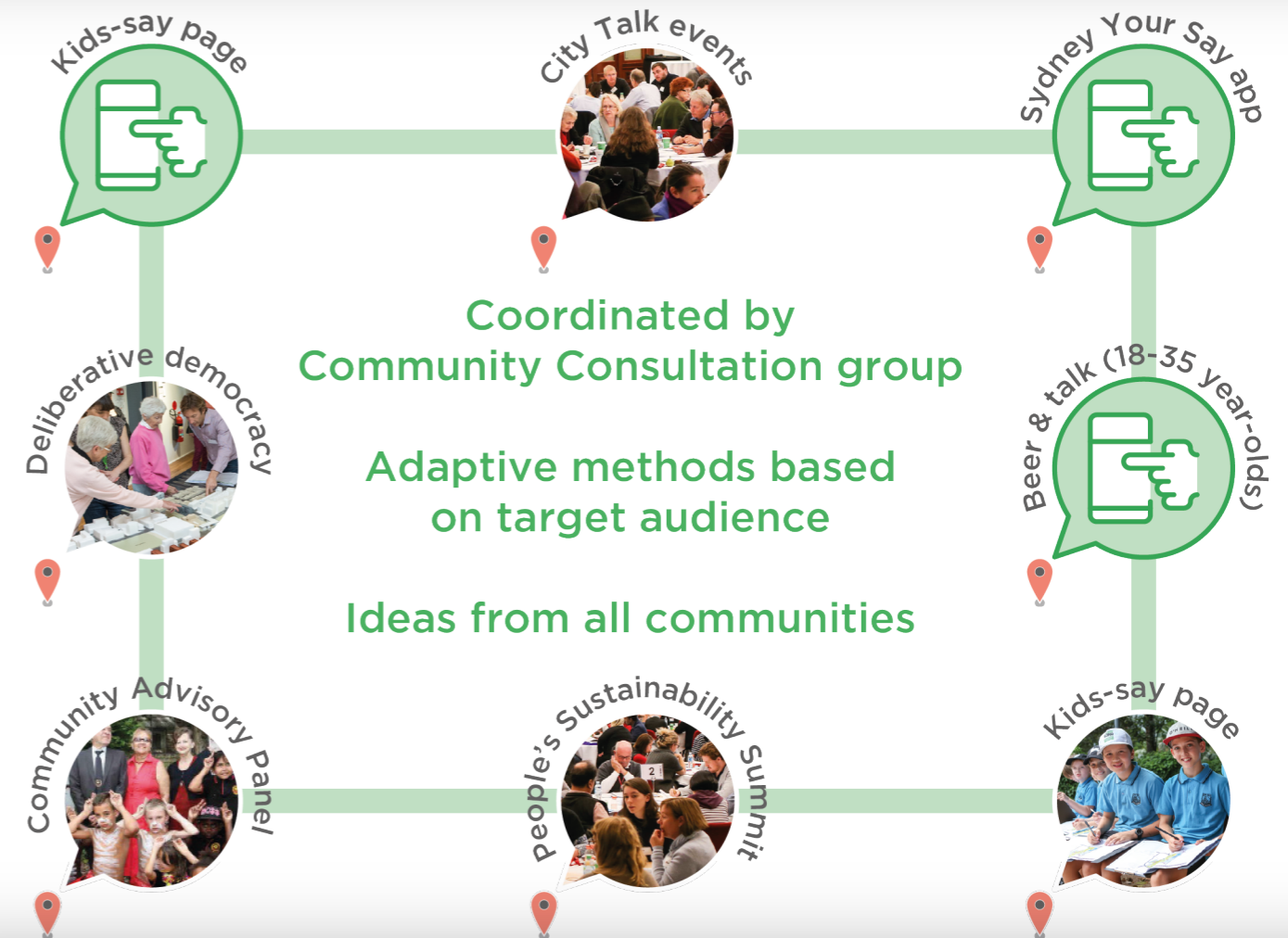
Buy-in from other levels of government



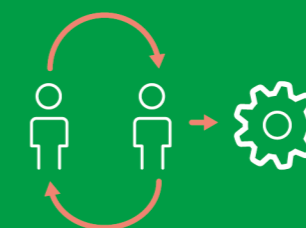
Increased trust in government



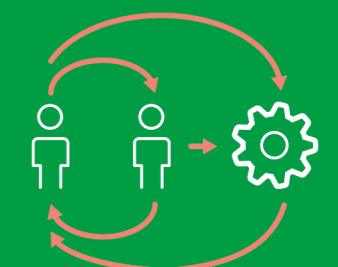
Low investment compared to impact



1. Informing
One-way flow of information from City to communities



2. Consulting
Two-way flow of information facilitated by engagement



3. Active participation
Added feedback for participants to see their impact

The final step in the engagement process is reflection. With surveys and anecdotal assessments, the City evaluates the success of the engagement and creates reports, for those involved, on the impact of their contributions. This step allows the City and community engagement leaders the opportunity to reflect and rework the approach for the next project or policy creation. This ensures the community engagement is effective and adaptive to the needs of targeted communities or specific projects.

Create a central public engagement unit to pool resources

Community engagement requires resources, predominantly in people, who are dedicated to reaching out and engaging with the public. The City launched a department known as Community Consultation with the sole mission of delivering the strategy and building a more connected Sydney. The Community Consultation group would replace any community engagement efforts within individual departments, and provide a centralized resource for community engagement across the City. With consolidated resources and a relatively small budget the team is able to deliver unique methods to engage the community. The City never thought twice about the resources needed to make community engagement a priority - their thinking: "we can't afford not to engage citizens." The costs of poorly informed projects and strategies are often much more than an up-front community engagement process.

Project milestones



Use engagement to leverage buy-in from other levels of government

A direct impact of the community engagement process and its well-defined strategy is that it helps to legitimize a project and its goals. This encourages other levels of government to come to the table and participate, adding leverage to turn these projects into reality. According to polls and post-engagement evaluations the community engagement's impact on the people of Sydney has been significant. People's engagement has led to increased connectivity and trust in the government and its decisions, increased civic equity so that people feel their individual opinion is being heard and influencing city decisions.

"We are developing strong citizens by showing their views and knowledge is valued by the council."

Yvette Andrews, Manager of Strategic Community Consultation

By developing a community engagement strategy that is inclusive in nature, Sydney is creating an environment that lures in communities of all means to contribute to City planning and project development. With all voices represented, the City is able to deliver projects and policies that have equitable impacts, especially on low-income and traditionally marginalized groups.

Use feedback and data to continuously improve your engagement strategy

Sydney is preparing to start a second round of intense community engagement for the Sustainable Sydney 2050 plan. Starting in November 2018, the team will set out to consult with people of all backgrounds, using new techniques with feedback for participants to more clearly see their impact and the messages they are portraying. Many cities prioritize community engagement and it should be common to ensure that inclusivity is a leading principle of City government. By taking the strides to create a sustainable city vision that is informed by its residents, Sydney is setting an example of a City building community trust and developing a plan that truly speaks for the people. As marginalized and low-income communities increasingly experience and feel the worst impacts of climate change, making special efforts to engage those communities in planning for climate mitigation and climate adaptation is crucial. Sydney is setting an example of how that can work successfully and how it can help to achieve equity goals.

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Buenos Aires, Argentina

Buenos Aires strengthens natural resources to protect low-income communities

With worsening climate impacts, Buenos Aires is particularly affected by flood events. To mitigate flooding, the City is undergoing an extensive program to update and improve its river basins to better handle flood events and protect low-income communities most at risk while also extending access to drinking water.

Lake Soldati and its adjoining communities.



What are the key lessons learned?

Buenos Aires sits on the Argentinian coast with many nearby river deltas and watersheds. As a water-centric City, its residents face increasing risks of flooding. The combination of poor stormwater drainage across the City, due to recent and rapid urbanization, and increasing rates and intensity of floods has put the low-income and more vulnerable populations at serious risk. Many locals cross over river basins to commute to work or school and flooding can strain access to resources or services. Nearly 700,000 people live in the City's targeted watersheds and approximately 46,000 mostly low-income residents live in close proximity to the flood-prone Lake Soldati.

In recent years, Buenos Aires has focused on flood protection in the City. In 2005, through the Ministry of Urban Development and Transportation (MDUyT), the City released a Hydraulic Master Plan to set in motion a path to protect its residents from the risk of eight floodable river watersheds in Buenos Aires. In particular, the City is focusing large capital investments in the Lake Soldati area, in the Cildáñez river basin, where a significant portion of low-income residents live.

Throughout the course of the project, the Ministry of Environment and Public Spaces' Urban Drainage Unit work to develop flood retention areas, delaying flows to the Riachuelo River that often experiences flooding. The Urban Drainage Unit will also construct infrastructure networks to improve water distribution and wastewater collection, construct drainage channels to strengthen existing infrastructure, and enhance the urban public space.

Ultimately, this adaptation project will reduce the impact that flooding has on Buenos Aires' communities and drastically improve living conditions for the low-income residents most intimately connected to these areas and most at risk.

The project will have multiple benefits stretching across environmental, social, economic, and health improvements.



Restoring Lake Soldati's natural resources will increase its biodiversity.

Climate

The Buenos Aires flood prevention project will upgrade the City's stormwater retention and drainage systems to better protect against 10-year rainfall events. With improved stormwater management infrastructure in place, the communities will be more resilient against future climate events.

Inclusivity

One of the sites for flood protection is Lake Soldati, surrounded by mainly low-income residents. Flood prevention measures will significantly impact these communities with decreased risk of flooding and damage to communities, improved economic security, sanitary conditions, and access and reliability of essential services.

Case Study Type: Program	Primary Sector: Adaptation
ICA Pillar: Impact	Primary Impact: Environmental Quality

How might these lessons be used in your City?

Understand the future of climate impacts

The City of Buenos Aires is aware of the dangers of climate change and has taken several necessary steps to adapt its natural lands to better handle future climate events. From March 2001 to January 2006, the City developed the City's Hydraulic Master Plan. This was the first planning document related to hydraulics, or the movement of water, in the City.

The City's vision for the Plan was to protect residents and mitigate the harmful impacts of flooding on the region.

Furthermore, to inform the Hydraulic Master Plan, Buenos Aires has created a Territorial Model for the City that presents City data on a time scale of fifty years. This report^[1] is available on the City's website as a data resource including urban population, economic, climate, and infrastructure-related data. The Territorial Model presents data related to the "Current City" representing the City as it is today and the "Desired City" representing the future city Buenos Aires is aiming to be.

After the Hydraulic Master Plan was published, the City of Buenos Aires created the group known as the Special Projects Unit of the Hydraulic Plan. The group was created to manage and implement the projects laid out in the Hydraulic Master Plan and the Water Risk Management Program (a program to implement adaptation work on the Arroyo Maldonado basin, improve green space, tree plantings, and more^[2]). This group is mandated to complete the execution of these plans and their many projects^[3].

Other flood adaptation efforts in Buenos Aires

In addition to the efforts that address flooding in the Lake Soldati and Cildañez river basin area, the World Bank is assisting with two other large river basins in Buenos Aires: the Maldonado and Vega basins. The Maldonado and Vega Basins cover the City's central area and hold over 30% of the city's area and population. Both of these river basins are home to mostly middle- and upper-income residents while the Cildañez river basin, in the southern portions of the City, is home to low-income communities, often living in informal housing. The Cildañez basin holds 16 of the 43 total informal settlements in Buenos Aires^[4]. The City has chosen to focus its attention on equitable implementation as these flood mitigation projects are ongoing across the City. It is important to Buenos Aires that they approach each project with the same level of investment and quality no matter the economic standing of the populations in each rivershed.



Ensure technical expertise for realized impacts

The Cildáñez rivershed adaptation project is organized through the Ministry of Environment and Public Spaces' Urban Drainage Unit with assistance, as needed, from the Ministry of Finance and the Secretariat of Habitat^[5]. Naturalizing a water body is a difficult task that involves integrating multiple disciplines such as sanitation, City water supply, stormwater management, ecological restoration, and more. In the case of Lake Soldati, the implementation team is focused on mitigating flood risk. This involves first and foremost cleaning out the lake, especially the bottom, to make room for additional water storage. As part of the sanitation efforts, nearly 230 ton of waste were collected^[6]. Additionally, the City has cleaned out the interior channels of the lake, removing large amounts of liquid mud, opened up ditches to improve drainage, installed water jets to aerate the Lake and provide sufficient oxygen levels, and rerouted sewage to a separate pumping station to avoid lake water contamination. The project also involved the construction of a flood storage area, including gates and a drainage system which controls the groundwater system and reduced flood volumes. Overall, the remediation and adaptation work for Lake Soldati involves a balance between infrastructure systems so that the Lake is able to operate sustainably with minimal impact on the neighboring communities. With the completion of the Lake sanitation, various flora and fauna began to appear and make the Lake home – a positive sign for successful naturalization of the Lake.

Lake Soldati Communities

Villa Soldati, one of the main communities near Lake Soldati and one of the largest social housing communities in Buenos Aires, was built between 1971 and 1978 and is approximately 19 hectares in area^[7]. The Buenos Aires Secretariat of Habitat and Inclusion, with help from the Ministry of Economic Development, has brought needed resources and support to Villa Soldati through their work in redeveloping the area as summarized in a 2012 report^[8]. The Secretariat of Habitat and Inclusion is working for the betterment of Villa Soldati by creating community centers, building bus stops, and improving public spaces.

Procure funding that influences and supports project development and community engagement

Most of the funding for the river basin adaptation projects is coming from the World Bank. The total project cost for the three basins Cildáñez, Maldonado, and Vega is US\$326M. The World Bank is providing US\$200M and the City of Buenos Aires is covering the remainder. The MDUyT's Special Projects Unit of the Hydraulic Plan (UPEPH) is in charge of managing the fund and the project's implementation. World Bank funded projects often come with support from the agency and a set of requirements, especially around reporting and community engagement. As funding is often the limiting factor for such climate-related projects, especially targeting low-income communities, it can be beneficial to procure funding from a source that can provide guidance and rigor around the successful implementation of the project.

Improving quality of life and reducing flood risk through collaboration



Increased resilience in low income communities



Reduced economic burden for residents



Reemergence of wildlife



Balance urbanization with infrastructure investment



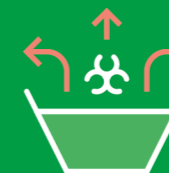
Maintain water resources for sanitation and quality of life



Involve local communities to build trust and ensure success



Stormwater
Protection against 10-year rainfall events and frequent floods



Sanitation
230 tons of waste collected from Lake Soldati



Community outreach
Sharable resources and City representatives on-site

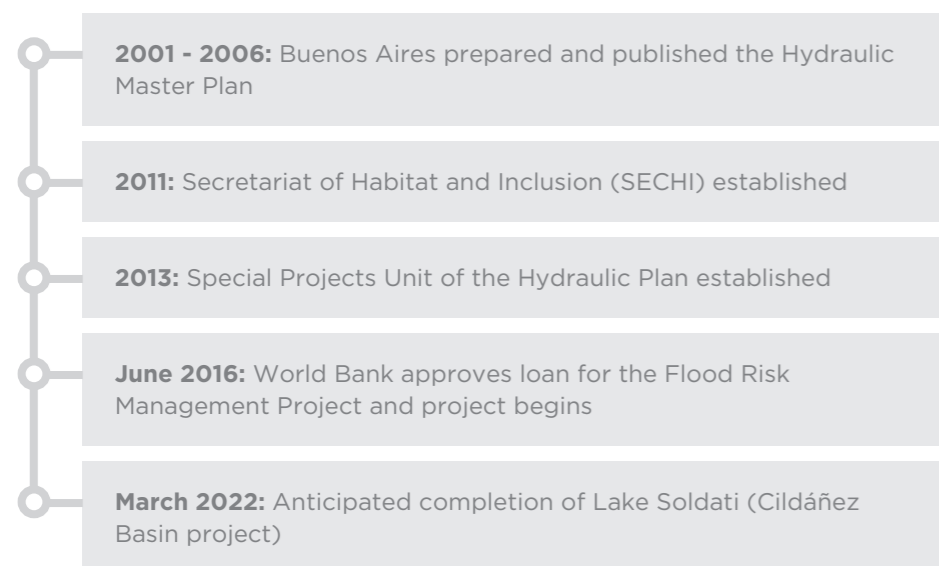
Implement projects that address multiple needs and provide countless benefits

The adaptation of Lake Soldati and the resulting reduction in flood risk for the area will have significant benefits for the communities including environmental, social, economic, and health-related improvements. Firstly, the rehabilitation of the Lake involves an extensive clean-up and outreach campaign which improves the conditions for communities, attracts flora and fauna to the area, and ensures that residents have the practical knowledge and resources needed to keep Lake Soldati clean.

A cleaner Lake Soldati means healthier neighboring communities as sanitary conditions improve and contaminated water levels are minimized.

Socially, this project significantly lowers the flood risk for low-income communities and contributes to the development of these communities by ensuring reliable access to essential services such as drinking water. Similarly, the project delivers economic security for these communities. After flooding and other climate incidents, low-income communities are often most impacted and least likely to be resilient enough to recover quickly. With reduced flood risk, these communities are also at less of an economic risk^[9].

Project milestones



Make engagement, communication and community growth part of the project

As part of the flood protection work across the City, there are several community engagement efforts that have been undertaken. In 2011, the Secretariat of Habitat and Inclusion (SECHI) was formed to coordinate engagement and foster relationships with targeted communities throughout

Buenos Aires. As part of their mission, SECHI has an office located within the communities near Lake Soldati to build relationships with these particular communities. SECHI, with support from NGOs in the area, conducted many forms of engagement to get the community involved including door-to-door outreach, workshops with children, and focus group meetings. One method that was particularly successful was the “Wish Box” where people were invited to submit their ideas for the project^[10].

Through the World Bank funding, there are ongoing engagement efforts such as generating shareable communication for city dwellers and education programs. For the communication aspects, the Buenos Aires Office of Communication is working to create community documents and resources and host informal seminars that educate and raise awareness of hazards and preventative actions to be taken during a flood event. For education, there are two programs planned. The first is organized through the Ministry of Education for the construction sector and education professionals to cover general knowledge about flood hazards, risks, vulnerability, and prevention. The second education effort is through the Ministry of Justice and Security (MJS) and supports the ongoing emergency first respondents program (Primeros Respondedores en la Emergencia), especially targeting the populations living in slums and poor neighborhoods of Buenos Aires^[12].

Keep moving forward

Recognizing that flood events are the city’s greatest risk, Buenos Aires has prioritized climate adaptation projects. These projects positively impact a significant portion of the City’s population, including a large number of low-income residents. The watershed adaptation projects make a stronger Buenos Aires that is resilient and prepared for the future of climate change – including the low-income and marginalized communities.

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Los Angeles, USA

LA provides access to affordable electric vehicle car sharing with BlueLA

The City of Los Angeles is moving rapidly towards electrified transportation. To include people and communities often left out of these transformations, Los Angeles entered a unique public-private-partnership to launch an electric car sharing program in low-income neighborhoods of the city. In its pilot phase, the partnering firm BlueLA car sharing is improving mobility and creating jobs for people in the targeted communities.

BlueLA team outreach to the community.



What are the key lessons learned?

With the imminent move to electrified transportation in Los Angeles, through the Sustainable City pLAN ¹¹, and the need to support low-income communities and provide access to electric vehicles, the City of Los Angeles and the Bolloré Group launched the BlueLA program on a commercial scale in April 2018 as an EV car sharing program targeted at its low-income communities. The project includes electric vehicles (EV), charging stations, dedicated parking spaces, and an expansive community outreach and marketing component to inform the communities and boost program participation. The project, in a pilot phase, is initially focused in areas of Los Angeles including Westlake, Koreatown, Pico-Union, Downtown, Echo Park, Boyle Heights, and Chinatown. As of December 2018, the first 20 of 40 charging “hubs” (five stations each) have been installed.

The premise for the project is curbside EV charging stations and dedicated parking spaces for BlueLA cars where members are able to reserve cars or parking spaces at a minute-based rate (\$0.15/min) and capped at \$9 for 3 hours of use for income-qualified members. Individuals can become members online or in-person at site kiosks. Memberships are priced with low-income populations in mind but anyone can become a member. If you are in an existing assistance program or can prove low-income status, you are entitled to subsidized membership and a 25% discount on usage rates. The service is intended as both a one-way and round trip car share, meaning that users may return the vehicle either in another BlueLA “hub” or return to the car’s “home” location, providing flexibility for the user to combine driving with other modes of transportation.

A unique aspect of the program is its involvement of Street Ambassadors who are hired from the targeted low-income communities as outreach agents. These Street Ambassadors and the other outreach initiatives at BlueLA constitute a range of face-to-face approaches that create awareness and excitement in local communities for electric vehicle car sharing.

As the project is still in its pilot phase, the feedback on the project’s success is mostly anecdotal. Through community events, BlueLA has heard of ways the vehicles are being used: doctor’s visits, job interviews, school drop-offs, weekend beach trips, driving practice with their children, to pick up supplies for their businesses, or to deliver food orders.

By targeting these low-income areas, the BlueLA program delivers an immediate impact on the air quality in these same neighborhoods, improving the health and wellness of the community.



Climate

The BlueLA Car Share pilot program is expected to reach 7,000 members, who in turn are expected to avoid purchasing 1,000 private vehicles, reducing annual greenhouse gas emissions by nearly 2,150 metric tons of CO2. The expanded program will have an even larger impact, including the program’s installation of 200 EV charging stations to encourage households that do own cars to shift to electric vehicles as well.



Inclusivity

The BlueLA project goes beyond addressing climate but also provides equitable access to car sharing programs and electric transportation in LA. Programs like BlueLA give low-income communities access to transportation that augments public transit. These communities are often disproportionately impacted by pollution and emissions from city traffic. By encouraging low-emission vehicles throughout the City, the BlueLA program will have an enormous impact on the air quality and health in these areas.

Case Study Type: Project	Primary Sector: Transportation
ICA Pillar: Impact	Primary Impact: Wealth and Economy

How might these lessons be used in your City?

Build a diverse and inclusive steering group to ensure successful implementation

Led by the Los Angeles Department of Transportation (LADOT), the project was initiated through a public Request for Proposals (RFP) process to select a provider. The Bolloré Group was selected by the City and soon after, they created a subsidiary called BlueCalifornia responsible for implementing the BlueLA project. The City of LA oversees this project with technical support from Mobility Development Partners, and with regular project input in two forms; from a Steering Committee of community based organizations, and the Tiger Team of city departments and external partners guiding project construction. The steering committee is currently composed of three community-based organizations: Salvadorian American Leadership Education Fund (SALEF), Tenemos que Reclamar y Unidos Salvar la Tierra - South LA (T.R.U.S.T. South LA), and Koreatown Immigrant Workers Alliance (KIWA). This committee helps to design the pilot, plan the outreach program including the nearly 200 community forums and events held so far. The Tiger Team, on the other hand, consists of representatives from all city agencies with a stake in the roadside curbs and meets weekly to discuss project implementation.

BlueLA Steering Committee

The BlueLA project integrates a diverse steering committee through three prominent LA community organizations. These community-based organizations have a presence on the ground with local communities who often face difficulties accessing resources and opportunities due to language barriers or financial limitations. One example of these organizations is KIWA, or the Koreatown Immigrant Workers Alliance. This group organizes immigrant workers, tenants, and families around workplace justice, housing rights, immigrant rights, democratic and sustainable community development, civic participation, gender justice, cultural resistance, and more^[2]. This group is centered around Koreatown in the City of Los Angeles, home to predominantly Korean and Latino residents. This organization, like the others, ensures that the people they represent have a seat at the table and are being given equal rights and access. In the case of BlueLA, it is critical to have the support of these community-based organizations to bring the community to the program through a trusted ally and ensure that the ultimate impacts of the project are benefitting all diverse groups. The steering committee helps the BlueLA team in designing the program specifically around outreach and impact.



Tiger Team

In order to ensure smooth implementation of the new car share program, BlueLA and the City of LA put together the Tiger Team representative of all City agencies with a stake in the roadside curb. Included in the Team are representatives for LA Department of Water & Power, the Bureau of Engineering, the Bureau of Contract Administration, the Bureau of Street Services, and the LA Department of Transportation. Each of these Tiger Team members carries with them expertise and different perspectives on implementing projects in the City. As advisors to the BlueLA project, the Tiger Team is able to anticipate hurdles and challenges the project may face and recommend strategies for successful implementation. To share their wisdom, the Tiger Team meets weekly with BlueLA to make more technical project decisions regarding the implementation of the project such as infrastructure concerns or sites for new stations.

Hire from local communities to create multiple benefits for residents and increase outreach

Community inclusion and outreach is a major component of the program and is considered essential to its success. Under its current contract, BlueLA is required to hire employees with a preference for local candidates. One manner in which this is satisfied is through Street Ambassadors who are hired from within targeted communities. These agents are responsible for recruiting members, educating the community on how the program works, reaching out to businesses and colleges for partnership, and conducting 'Drive and Ride' events to spur program excitement. The integration of local workforce into the project's implementation generates jobs and community support and contributes to BlueLA with community-based expertise.

Since the program's official launch in April 2018, 20 hubs and 100 stations equipped with five charging units per station were deployed in the areas of Downtown, East Hollywood, and North of the University of Southern California. The program currently has over 1,000 members and 70 vehicles in operation that have provided over 5,000 rides. So far, the project is close to meeting its goals for the pilot project of delivering 200 charging stations and 100 electric vehicles by February 2019, with the vision of reaching 7,000 members in the targeted neighborhoods by 2020. The team ultimately defines success as the percentage of members signed up to the program from the targeted low-income communities.

Create access and pricing structures that allow low-income communities to participate

In selecting locations for BlueLA stations, the team has three criteria: (1) the stations must be close to a metro or bus stop to help solve the first mile, last mile dilemma, (2) the stations must be safe for both pedestrian and car access, and (3) the stations must be clearly visible to members for easy way finding.

The program is set up as a one-way car sharing system that targets short usages (under three hours) where a fully charged vehicle has the capacity for approximately 125 electric miles. As a program specifically targeting low-income communities, the program pricing is structured accordingly.

Access to electric vehicles for all



Improved air quality in neighborhoods



Enhanced mobility



Created local jobs and affordability

Create access for...



Diversity

Provide resources and engagement in multiple languages



Low-income residents

Subscription pricing and local hiring



Disinvested neighborhoods

Stations located in low-income neighborhoods



Street Ambassadors:

Community members hired to promote the program



Low cost:

EV car sharing eliminates gas, insurance, parking and car ownership costs



No emissions:

Transportation options for cleaner air for LA

The subscription fee to become a member, for those who are able to show proof of financial hardship, is \$1 per month and operating costs are \$0.15 per minute (or \$9 per hour). Regular members are charged a fee of \$5 per month and \$0.20 per minute (or \$12 per hour). In addition, the program caps this usage rate at \$9 for up to 3 hours, allowing members to use the vehicles at a very affordable rate. Aware of the fact that many of the targeted residents are without any bank account, BlueLA created a path to membership for these individuals. As the program currently only accepts debit and credit cards, the operator has collaborated with community organizations to help these individuals build credit and obtain a debit card and eventually a credit card. Relatedly, BlueLA accepts all driver's licenses, even those issued outside of the United States, as long as they supply an International Driving Permit.

Leverage grants from other levels of government

The state of California mandates that at least 35% of funds from its cap-and-trade program are invested in disadvantaged and low-income communities by the California Air Resources Board (CARB)^[3]. The City of LA took advantage of this opportunity to fund transportation improvements prioritizing disadvantaged communities and neighborhoods in the City. In 2015, the City won \$1.7 Million of this funding through the California Climate Investment (CCI) program. In their bid during the procurement process, BlueLA offered an initial investment of \$10 Million to start the project, putting off their profits until after year five of the program. Additionally, for each charging station installed, BlueLA is able to receive a \$5,000 rebate for each charger from the EV rebate program funded by the LA Department of Water & Power^[4].

Project milestones



Measure impact through an iterative process

As a continual part of the program, BlueLA conducts member surveys when individuals enter the program and when they leave the program. This allows BlueLA to better understand if the program is meeting expectations and the needs of its members such as affordable means to increased mobility or improved access to employment and appointments.

Once the program reaches a critical mass (around 25 stations), BlueLA plans for a more extensive survey, targeting members and non-members alike, and to conduct an in-depth analysis of all data collected from the pilot. Through this effort, the team will analyze anecdotes and key performance indicators such as the number and length of rides, the number and zip code of members, the number of accidents and general behavior of drivers (tracked through and aided by an operator 24/7 in the case of an incident or emergency). BlueLA hopes to determine if the pilot was a success by signing up and maintaining members from targeted low-income communities in addition to keeping users safe and happy.

Expand programs with proven results

Looking to wrap up the pilot program, the City has applied for another grant from CARB in the order of \$3 Million. The City and BlueLA have also pledged additional resources of their own towards this second phase. Phase 2 will expand the pilot program to 300 EVs and 500 charging stations starting in February 2019 and also begin the installation for electric scooter / bike share networks. This final pilot program expansion will spread the program into Boyle Heights, Thai Town, South L.A., and East Hollywood, among other neighborhoods. This project is exemplary of one built to serve the people who are most impacted by climate change and offers them services that not only help to mitigate the effect of poor air quality and pollution but to improve their daily lives.

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Paris, France

Paris makes a fair energy transition by tackling fuel poverty and engaging its residents

Paris is a city with a long history of climate action and climate leadership. Recent efforts direct the City's attention to creating a successful and fair energy transition towards carbon neutrality. Particularly, the City is working to address fuel poverty to benefit low-income residents and has created new forums for all Parisians to participate in climate actions.

Parisians rally around environmental protection



Case Study Type: Plan	Primary Sector: Urban Planning
ICA Pillar: Policy	Primary Impact: Quality of Life & Urban Livability

What are the key lessons learned?

Paris' new Climate Action Plan 2030, released in May 2018, sets an ambitious vision. By 2050, Paris aims to be a zero local emissions city. This will not only need significant investment to renovate buildings and public transit, but also a rapid change in behaviors and lifestyles. In focusing this plan on a fair energy transition, the City recognizes that climate action is only effective and successful if social issues are tackled at the same time.

This is why the City puts a specific emphasis on tackling fuel poverty, which is defined as those households that spend more than 10% of their household incomes on energy.

It is estimated that nearly 77,000 households in Paris suffer from fuel poverty and with recent spikes in gas prices by more than 20%, energy poverty is becoming an even greater concern.

Set forth in the Climate Action Plan, Paris is targeting a reduction in fuel poverty through subsidies, energy retrofits, and better management of home energy consumption. A reduction in fuel poverty will alleviate stressors

for low-income communities across Paris and improve access to more affordable energy and energy efficient homes, helping to improve the economic situation of low-income Parisians.

To achieve its vision to become a zero local emissions city, Paris however also recognizes that the City's local government is only responsible for 2% of Paris' carbon footprint in the area and that it is essential to mobilize other stakeholders. To this purpose, Paris has created a campaign following the release of its Climate Action Plan in May 2018 where it asked Parisians to express their support to the plan by voting and/or signing up as a volunteer at one of three levels: resident volunteer, engaged volunteer, or expert volunteer. The referendum was a great success as nearly 75,000 Parisians came out to vote with a 95% approval rate.

Climate

As part of the Climate Action Plan, the City has set ambitious targets for 2030 and 2050: It aims to reduce its energy consumption by 35% by 2030 and halve consumption by 2050 compared to 2004 levels. By 2050, Paris also aims to be a zero local greenhouse gas emissions area. This means all energy consumed will need to be of renewable origin.

Inclusivity

Paris recognizes that this energy transition cannot happen without paying attention to social inequality. It therefore commits to a solidarity-based energy transition that excludes no one and focuses, in its new Climate Action Plan, on combatting fuel poverty. In addition, the Plan recognizes that all Parisians need to be involved in implementing climate actions. It therefore created a volunteer program that allows all of Paris' people to participate in climate actions to different degrees – from being informed to becoming leaders.

How might these lessons be used in your City?

Define fuel poverty and address it with diverse actions

Fuel poverty is not a new phenomenon and the City of Paris has worked on energy retrofits in its publicly-owned housing stock since 2008. However, making it a central focus in its new Climate Action Plan with a defined target of reducing fuel poverty by 20% by 2020 shows the City's determination to make this energy transition towards a carbon-neutral Paris a fair and socially inclusive one.

There are three main considerations when tackling fuel poverty: (1) household incomes, (2) energy prices, and (3) household energy efficiency. Paris has developed programs to assist with each of these considerations. Since 2012, the City has disbursed national subsidies for low-income residents to pay their energy bills. The City also works with energy suppliers to identify households at risk of energy poverty and helps them decrease the impact of their energy bills. As for energy efficiency, the City has developed a retrofit program to target public housing.

The program, started in 2008, has a goal of retrofitting 55,000 flats by 2020 and Paris is on track to meet that goal. The program works to improve the energy efficiency of these buildings to reduce energy consumption by up to 50% and reduce costs by approximately €360 per year per household. In addition to the retrofits, the City provides programs to help people manage and monitor energy usage in their flats. The program is on-going, and will continue beyond 2020, with an objective to retrofit 5,000 flats per year for a 60% increase in total retrofitted flats.

The continuation of the program is driven by the positive impact it has created so far: energy demand has been cut in half and the number of people asking the City for help with paying energy bills has been significantly decreasing. Each year, the program costs the City nearly €35M to €40M. To assist its funding, the National Bank has been offering low-rate loans to the City's public housing dwellers for improvements.



Reach out to the private sector to prompt action

Retrofitting homes efforts have first focused on public housing as the City owns these buildings and because it is easier to justify public spending on public housing. However, not all Parisians experiencing fuel poverty are living in publicly-owned housing. Many live in private-owned housing units. Paris has therefore been working to integrate the private sector into the retrofit program through a variety of incentive programs to landlords. The City cannot force landlords to retrofit their buildings, but landlords in Paris are by law forced to clean property façades on a regular basis. The City tries to engage landlords and make them aware that façade cleaning provides an opportunity to also thermally retrofit the building. The City is offering free energy audits for privately-owned buildings and has hired a third-party organization to communicate to building owners the benefits of energy efficiency and to walk them through the potential energy efficiency improvements applicable to their specific buildings, as a result of the energy audits. And ultimately, the City also provides financial aid as a percentage of the investment undertaken by the landlord through its ECO-RENOVONS ("Let's retrofit") program.

Engaging and empowering everyone in the implementation of climate action

For the development of the new Paris Climate Action Plan 2030, nearly 700 people were engaged in 100 hours of debates, resulting in 280 proposals received from citizens for climate actions. Additionally, 300 proposals were received from economic, academic, and non-profit sectors^[1].

These included, for example, proposals to promote renewables, develop active forms of mobility, and improve the referencing of eco-friendly tourism structures. The goal of the Plan was to make it one that represented the desires and aspirations of Parisians.

Participatory budgeting

In 2014, Paris began piloting a participatory budget program that would allow the general population to propose projects and ultimately vote on projects for funding in next year's budget. Between 2014 and 2020, Paris has committed to reserving €500M, or about 5% of the City's total funds, for allocation through participatory budgeting. According to the new Climate Action Plan, at least 20% of its funds should finance climate initiatives. For each cycle, there are 20 participatory budgets allocated for each of the City's Districts and another single participatory budget to cover Paris-wide projects. In 2016 alone, nearly 159,000 people voted on how to spend €100M^[2]. Through the program, Paris is breaking down barriers between the public and the government and working to enhance the relationship and trust between the two groups. The program so far has been a success with large numbers of people participating and a growing sense from the people that their voices are heard.

Moving towards a fair energy transition



Retrofitting 55,000 flats by 2020



Reduced energy consumption by up to 50%



Reduced energy costs (~€360 per year per household)

Three considerations when tackling fuel poverty: (1) household incomes, (2) energy prices, and (3) household energy efficiency



Partner with private sector
to ensure retrofitting in more than just public housing



Work with energy suppliers
to identify households at risk of energy poverty



Provide subsidies
to low-income residents



Climate Volunteer Program:
15,000 citizens have expressed their interest in becoming a volunteer



Participatory budgeting:
In 2016, ~159,000 people voted on how to spend €100M



Engaging everyone for implementation:
700 people were engaged, resulting in 280 proposals from citizens

To create momentum around the release of the Paris Climate Action Plan, Mayor Hidalgo organized a referendum for the new Plan which took place from May 25th to June 3rd, 2018 at 'Ville de Paris' to engage citizens in climate action. The referendum asked the population for support with the Climate Action Plan with an option to volunteer in the creation and implementation of climate actions throughout Paris.

Finally, an entire section of the Plan is devoted to the mobilization of stakeholders and citizens in supporting and contributing to the energy transition. The Climate Volunteer Program, in addition to the participatory budgeting process, are particularly innovative and exciting.

Climate Volunteer Program

With the release of the Climate Action Plan, Paris residents were asked to sign up as volunteers supporting the energy transition. Three levels of volunteers were available:

- 1. The resident volunteer** commits to make behavioral changes on a daily basis, such as eating more seasonal and local fruits, taking the bike or walk more often, and reduce waste.
- 2. The engaged volunteer** commits to incentivize others to make behavioural changes through small projects in their building or neighborhood.
- 3. The expert volunteer** actively participates in neighborhood or city forums.

15,000 citizens have expressed their interest in becoming a volunteer to progress the Paris Climate Action Plan and the City is currently developing a range of initiatives to get them involved. The program has started by educating these volunteers on heat risks and vulnerabilities so that they can check on their elderly neighbors during heat waves. Similarly, they will be trained on fuel poverty and impacts for the winter season in the hopes they can help the social workers with outreach and support for those fuel-impooverished community members. Generally, the volunteers are activated through monthly newsletters, workshops, and other events. The volunteer program is driven to engage and increase the awareness of the general public. The intention is for those interested in climate action to participate and have a say in the future of climate action in Paris.

Project milestones



Lead the way with community support

With a group of climate volunteers ready to act and a new set of strategies for addressing climate change, Paris has set the stage for the coming years. The specific strategy to alleviate fuel poverty will likely bring about multiple benefits for the low-income communities and shows the City's devotion to a fair energy transition. Ultimately, tackling climate change improves Parisians' quality of life.

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Image References

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Credit: C40 Cities

CAPE TOWN

A Cape Town family receives a new insulated ceiling (Page 12)

Credit: City of Cape Town

Installation of an insulated ceiling (Page 15)

Credit: City of Cape Town

NEW YORK CITY

Community members volunteer to paint roofs white (Page 22)

Credit: Cool Neighborhoods NYC Report

Applying white coating to a NYC roof (Page 25, Top)

Credit: NYC °CoolRoofs Facebook page <https://www.facebook.com/coolroofs/>

Planting trees along NYC sidewalks (Page 25, Bottom)

Credit: Cool Neighborhoods NYC Report

BARCELONA

Co-production as part of the Barcelona Climate Plan (Page 30)

Credit: City of Barcelona

Community engagement workshop 1 (Page 33, Top)

Credit: City of Barcelona

Community engagement workshop 2 (Page 33, Middle)

Credit: City of Barcelona

Community green roof tour (Page 33, Bottom)

Credit: City of Barcelona

SYDNEY

Project planning with input from and consultation with community members (Page 38)

Credit: City of Sydney

Location of Sydney projects each with local engagement (Page 39)

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Community engagement workshops (Page 41, Top)

Credit: City of Sydney

Outreach to families (Page 41, Middle)

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Engagement of children (Page 41, Bottom)

Credit: City of Sydney

BUENOS AIRES

Lake Soldati and its adjoining communities (Page 46)

Credit: City of Buenos Aires <http://www.buenosaires.gob.ar/noticias/el-lago-soldati-recupera-su-ecosistema-original>

Restoring Lake Soldati’s natural resources will increase its biodiversity (Page 47)

Credit: City of Buenos Aires <http://www.buenosaires.gob.ar/noticias/el-lago-soldati-recupera-su-ecosistema-original>

Construction at Lake Soldati (Page 49)

Credit: City of Buenos Aires <http://www.buenosaires.gob.ar/noticias/el-lago-soldati-recupera-su-ecosistema-original>

LOS ANGELES

BlueLA team outreach to the community (Page 54)

Credit: City of Los Angeles <https://www.lamayor.org/mayor-garcetti-and-state-leaders-launch-electric-vehicle-car-share-program-disadvantaged-communities>

BlueLA station (Page 57)

Credit: City of Los Angeles

PARIS

Parisians rally around environmental protection as part of the Il Est Encore Temps (“It Is Still Time”) initiative (Page 59)

Credit: City of Paris

Bike share in Paris (Page 65, Top)

Credit: C40 Cities

Community engagement for Climate Action Plan (Page 65, Bottom)

Credit: City of Paris

Back Cover Image: Ethiopia, Addis Ababa, C40 Award (Page 64)

Credit: C40 Cities



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