

STATE OF CLIMATE KNOWLEDGE 2022

Workshop Summary Report



Mayor's Office of Climate &
Environmental Justice

STATE OF CLIMATE KNOWLEDGE 2022 Workshop Summary Report

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TABLE OF CONTENTS

CLIMATE KNOWLEDGE EXCHANGE OVERVIEW	8
BACKGROUND	8
CKE IN 2021	8
CKE IN 2022	9
SPRING 2022 WORKSHOPS OVERVIEW	9
WORKSHOP PARTICIPATION	9
PARTICIPATING ORGANIZATIONS	10
WORKSHOP 1 OBJECTIVES	10
WORKSHOP 1 OUTPUTS: CKE PRINCIPLES AND THEMES	11
WORKSHOP 2 OBJECTIVES	12
WORKSHOP 2 OUTPUTS: THEORY OF CHANGE	13
WORKSHOP 3 OBJECTIVES	17
WORKSHOP 3 OUTPUTS: REFINING PATHWAYS & PRINCIPLES	17
FUTURE ACTIONABLE STEPS	22
GOVERNING BODY	22
FUNDING	22
TRACKING AND MAPPING	22
APPENDICES	24
APPENDIX A: WORKSHOP MENTIMETER RESPONSES	24
APPENDIX B: WORKSHOP 2 BREAK-OUT GROUP NOTES ON THEORY OF CHANGE PATHWAYS	30
APPENDIX C: WORKSHOP 3 FEEDBACK ON INDICATORS AND DATA/INFORMATION	37

KEY ACRONYMS

CKE – Climate Knowledge Exchange

EJ – Environmental justice

MOCEJ – Mayor's Office of Climate and Environmental Justice

NPCC – New York City Panel on Climate Change

ToC – Theory of Change

EXECUTIVE SUMMARY

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New York City is already experiencing the impacts of climate change, and due to structural inequalities, some New Yorkers are impacted more than others. In order to make progress on equitable action, in 2020, a sustained engagement process called the Climate Knowledge Exchange (CKE), was created by the Mayor's Office of Climate and Environmental Justice (MOCEJ).

MOCEJ piloted the CKE as an engagement process focused on identifying what City staff, nonprofit and community-based organizations, and scientists consider to be the biggest knowledge gaps impeding a just climate response in NYC. In the first year of the CKE, MOCEJ engaged over 170 people from 27 non-governmental organizations and 21 city agencies in 25 small discussion groups. Thematic analysis of these discussions and document review of community plans and survey data were used to identify four key research focus areas, outlined in the [State of Climate Knowledge 2021](#) report. In 2022, MOCEJ brought together many of the same participants from 2021, as well as new individuals from nonprofit and community organizations, academia, and government agencies, to refine the design of the engagement process to achieve the CKE's broader objectives of collectively identifying climate research needs and working toward building capacity for just climate action.

The State of Climate Knowledge 2022 Workshop Summary Report provides a synopsis of the outcomes of the three-workshop series, which was designed to refine the CKE engagement process. Participants were asked to reflect on what was working and not working with climate knowledge exchange processes in NYC, develop principles and articulate key goals of the CKE, as well as identify potential strategies to achieve the goals and monitor their success. With a cross-cutting focus on equity and climate justice, the following five key goals of the CKE were identified:

- Sustained funding is achieved;
- Information is accessible to all;
- Networking and partnerships with stakeholders are created and maintained;
- Multi-way exchanges to empower and elevate communities are established; and
- Brave spaces for listening and learning are fostered.

In addition to building out these goals with specific strategies and underlying guiding principles, the State of Climate Knowledge Summary Report also sets the foundation for future CKE efforts, outlining recommendations for strengthening subsequent engagement. These recommendations include: (1) the establishment of a CKE governing body; (2) identification of a sustained funding pipeline; and (3) tracking and mapping existing climate research and practice-based efforts. Examining this final recommendation, the report also features highlights from contributing nonprofit and community-based organizations on their ongoing climate projects and initiatives.

In order to help ensure that equitable action is taken to make New Yorkers resilient to the impacts of climate change, all voices must be heard. There is an enormous opportunity for communities, nonprofits, researchers, and government agencies to learn from one another through a knowledge exchange program such as the CKE. Moving forward, the aspiration is to maintain communication, act on the identified goals, and continue to expand the CKE through new stakeholder engagement.

REPORT

CLIMATE KNOWLEDGE EXCHANGE OVERVIEW

CLIMATE KNOWLEDGE EXCHANGE OVERVIEW

BACKGROUND

Like many other cities around the globe, New York City (NYC) is already experiencing impacts of climate change through heavier rains, worsening storm surges as a result of increased flooding and sea level rise, and more intense heat waves. For many local communities, this means their days have more frequent flooding, higher electricity bills, and other unforeseen challenges that impact quality of life. As climate change exacerbates structural inequalities, advancing just climate action¹ is necessary to protect communities and to build resilience for the future. In order to make progress on just climate action, trust, and community relationships must be cultivated. This necessitates a sustained engagement process between city government agencies, community groups, and others. To build a community of practice, collectively identify climate research needs, and work towards building capacity for just climate action, the Mayor's Office of Climate and Environmental Justice (MOCEJ) piloted the Climate Knowledge Exchange (CKE) program in 2021.

The concept of **knowledge exchange** – or a

process of multi-way learning and exchange of ideas, perspectives, and information – forms the basis of the CKE. Climate knowledge can come in many forms, relating to areas of policy, practice, science, culture, place, and community, and can be communicated in a variety of ways. Climate knowledge exchange is distinct from, but related to, climate communication, education, outreach, and research (see Figure 3 in Workshop 1 Objectives for more detail). This exchange of knowledge helps to establish a community of practice bringing diversity of perspectives and voices together to build capacity for just climate action in NYC and beyond.

CKE IN 2021

The CKE was piloted in 2021 as an engaged dialogue with City staff, community organizations, nonprofit organizations, and scientists on what these stakeholders know, do not know, and need to know about climate change – including identifying the biggest knowledge gaps that impede a just climate response in NYC. The goal was to co-develop research priorities for NYC's most pressing climate challenges, culminating in the [State of Climate Knowledge 2021](#) report. This pilot effort was unique and significant because it aimed to generate a collective understanding of what New Yorkers know

¹ **Just climate action** is defined as action that considers the impacts of climate solutions on those who are least responsible for and most vulnerable to climate impacts.

about climate change by bringing together many diverse voices, including some that are rarely heard (or listened to) in policy discussions.

In the first year of the CKE, MOCEJ engaged over 170 people from 27 non-governmental organizations and 21 city agencies in 25 small discussion groups. To find recurrent themes, MOCEJ analyzed notes from group discussions; survey responses; and over 30 different climate plans, reports, and studies developed by governmental and non-governmental organizations.

MOCEJ then synthesized themes into four broad focus areas where additional research is most needed: 1) Living with Climate Change, 2) Managing Resiliency,² 3) Climate and the Built Environment, 4) Climate Communication, Education, and Engagement, and an additional theme, equity and climate justice, that cuts across the four research focus areas. Through the identification of these research needs, MOCEJ advocated for and received funding from the City expense budget to support the [New York City Panel on Climate Change \(NPCC\)](#), a Mayoral advisory body.³ NPCC has been a credible source of scientific information on future climate change and its potential impacts for over a decade, regularly informing the Mayor, City Council, and many City agencies. The 2021 CKE process directly influenced the development of NPCC upcoming research priorities and the City's

climate response.

CKE IN 2022

SPRING 2022 WORKSHOPS OVERVIEW

In 2022, MOCEJ brought together many of the same participants from 2021, as well as new ones from nonprofit and community organizations, academia, and government agencies. The overall goals were to refine the CKE engagement process and to unite local knowledge, academic climate research, and City agency know-how to co-produce actionable results. MOCEJ convened a series of three workshops held remotely via Zoom on April 28th, May 11th, and May 18th, 2022, to define knowledge exchange and produce a Theory of Change that details how the CKE can facilitate short-, medium-, and long-term action toward collective goals.⁴ Participants worked together to outline the steps and processes to elevate community knowledge on climate change, foster sustaining partnerships, and ensure that climate information is more accessible to everyone. See **Figure 1** below for workshop objectives.

WORKSHOP PARTICIPATION

MOCEJ invited approximately 125 individuals representing over 70 different educational institutions, city agencies, and non-governmental/community organizations as shown in the list below.

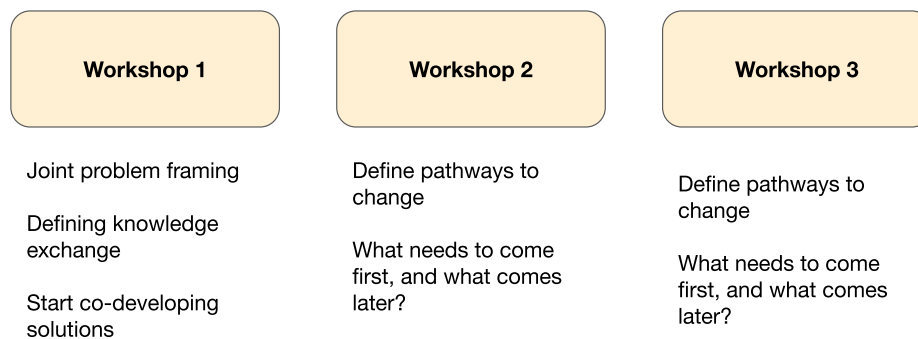


Figure 1. Workshop Outline

² **Resiliency is defined here** as the ability of neighborhoods, the economy, and public services to be prepared to withstand and emerge stronger from the impacts of climate change.

³ NPCC is a 20-member independent advisory body that synthesizes scientific information on climate change and advises City policymakers on local resiliency and adaptation strategies. NPCC was established in 2008 and was codified in Local Law 42 of 2012 with a mandate to provide an authoritative and actionable source of scientific information on future climate change and its potential impacts.

⁴ Theory of Change is described in detail in the following Workshop 2 Objectives section.

With the goal of creating a diverse and inclusive space for engagement, MOCEJ aimed to invite participants representing different ages, ethnicities, and industries. Attendance was tracked for each workshop. On average, each workshop was attended by approximately 47 participants, including 13 from academia, 14 from government, and 20 from community-based and nonprofit organizations. The organizations listed below are those that attended at least one of the workshops. The focus of the CKE in 2022 was to engage heavily with community and nonprofit organizations. Therefore, businesses, real estate developers, and banks are not represented in the list, although they are important stakeholders to consider in future engagements.

PARTICIPATING ORGANIZATIONS

Community-based and Nonprofit Organizations

- Church of God Christian Academy, Far Rockaway resident
- Climate Adaptation Partners
- El Puente
- Environmental Defense Fund
- Environmental Justice Alliance
- Founder of Center for Neighborhood Technology
- Fresh Creek Civic Association
- National Wildlife Federation
- Natural Resources Defense Council
- New Hamilton Beach Civic Association
- New York Sea Grant
- North Brooklyn Neighbors
- Northeast Organic Farmers Associations – New Jersey Director
- NYNJ Harbor & Estuary Program and Hudson River Foundation
- Public Agenda
- RETI Center

- Sci4NY
- Science and Resilience Institute at Jamaica Bay
- State Power Fund, We Make The Future
- The Nature Conservancy
- Waterfront Alliance
- WE ACT for Environmental Justice

City Government Agencies

- Con Edison
- Mayor's Office of Climate and Environmental Justice (MOCEJ)
- New York Sea Grant
- NYC Department of Education (DOE)
- NYC Department of Health and Mental Hygiene (DOHMH)
- NYC Department of Parks and Recreation (Parks)
- NYC Housing Authority (NYCHA)
- The Trust for Governors Island
- U.S. Army Corps of Engineers (USACE) Environmental Lab

Educational and Research Institutions

- Barnard College
- Baruch College – CUNY
- Brooklyn College
- Columbia University
- Cornell University
- CUNY
- Georgetown University
- The Leadership Program (PS 152 School of Science and Technology)
- Rutgers University
- Self/Independent researcher
- The New School
- Urban Systems Lab, The New School

WORKSHOP 1 OBJECTIVES

The objectives of Workshop 1 were to foster a shared

Table 1. Knowledge Exchange and Related Concepts

How Related Concepts Support Knowledge Exchange	
Knowledge Exchange	Process of multi-way learning and exchange of ideas, perspectives, and information
Communication	Uses compelling visuals, plain language, and narrative elements to engage a wide audience
Education	Builds understanding as a basis for action
Engagement	Builds communities through stronger public participation and democratic systems
Research	Refines research needs and generates data to assess capacity to respond to climate

understanding of climate related problems and co-develop solutions and interventions to refine the CKE process. Participants worked to define the meaning of knowledge exchange in different contexts and then explored how the CKE could complement climate communication, education, engagement, and research efforts (see **Table 1**).

In addition to open group discussions, individual participant feedback was collected through Mentimeter, an interactive online survey platform. The five initial discussion questions for participants on Mentimeter were:

1. How does “knowledge exchange” complement communication, education, engagement, and research? What other components are needed?
2. What’s working with knowledge exchange processes in NYC?
3. What could be improved with knowledge exchange processes in NYC?
4. What should the principles be for knowledge exchange processes in NYC?
5. What should the outcomes be for knowledge exchange processes in NYC?

In order to co-develop solutions and interventions, participants were subsequently placed into small breakout groups where an online tool, Miro, was utilized to capture discussions on the following topics:

- Raising funding to sustain knowledge exchange by and for communities
- Developing authoritative and accessible findings for use in knowledge exchange

- Fostering partnerships between scientists, communities, government agencies, etc.
- Elevating community experiences

WORKSHOP 1 OUTPUTS: CKE PRINCIPLES AND THEMES

The various discussions and participant responses from the Miro Board, Mentimeter poll, and Zoom chat box were reviewed and analyzed, as described below.

Working from the definitions in **Table 1**, participants shared their responses to the first discussion question, “How does ‘knowledge exchange’ complement communication, education, engagement, and research? What other components are needed?” **Figure 2** below presents a representative subset of participant responses to this question (all participant Mentimeter responses are listed in **Appendix A**).

In response to Question 2, “What’s working with knowledge exchange processes in NYC?”, common phrases in Mentimeter included: awareness, urgency, collaboration, cultural relevance, and openness. Overall, there was a shared sense that more of the general population is becoming aware of the impacts of climate change and there is a need to develop networks, such as the CKE, for engagement and organizational purposes.

For Question 3, “What could be improved with knowledge exchange processes in NYC?”, common responses included: committing to action, articulating solutions, and supporting implementation, equity,

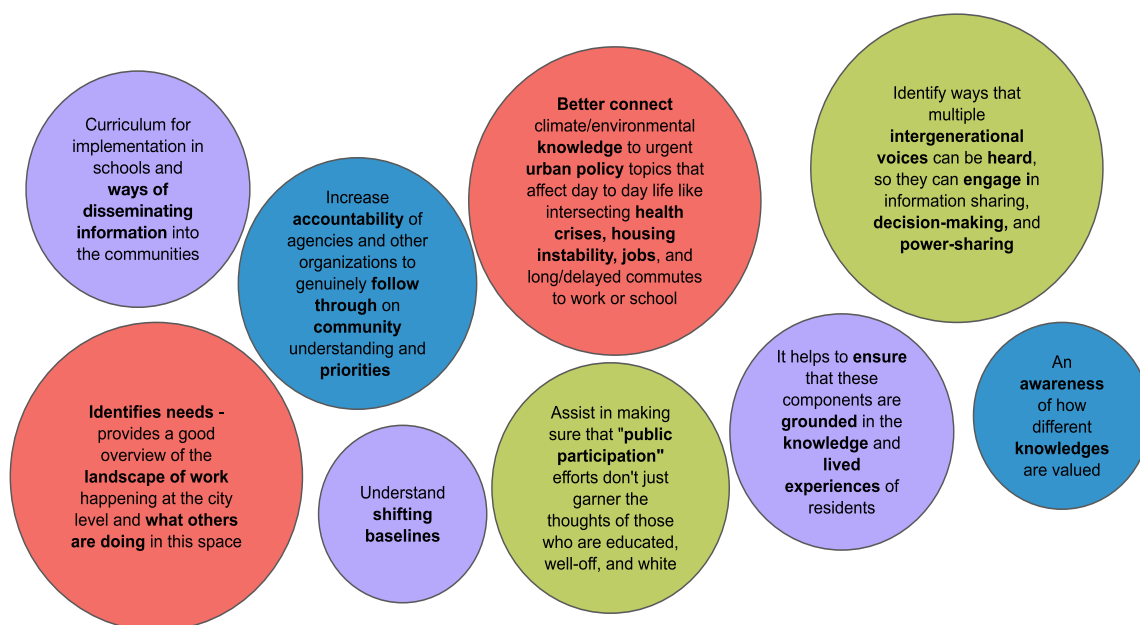


Figure 2. Mentimeter responses to the question, “How does knowledge exchange complement communication, education, engagement, and research?” Please note that the size and color of the circles are for aesthetic purposes only.

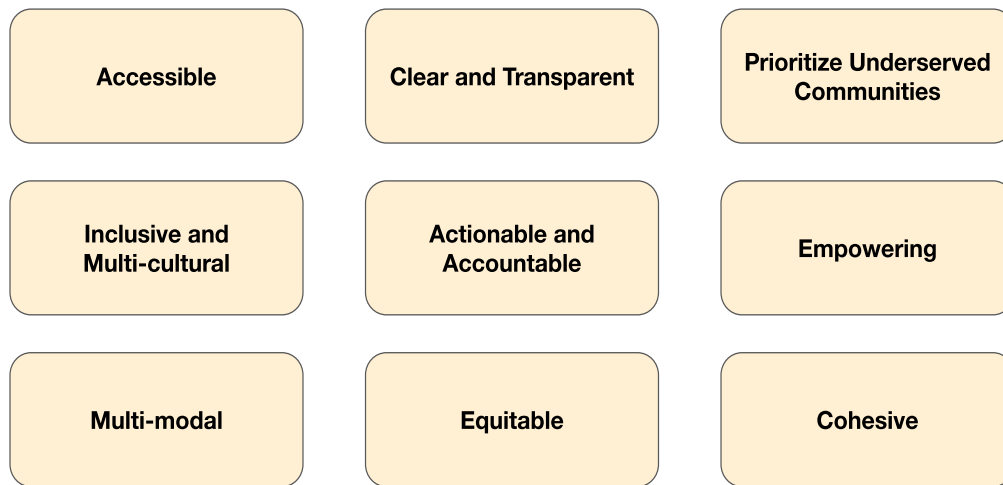


Figure 3. Key Principles from Workshop

and agency flexibility. The need for follow-through was also emphasized, along with the need for transparency around limitations. While there has been increasing attention paid to the issue of climate change, participants resoundingly cited the need to translate knowledge into action.

Overall, the following key principles and themes emerged from Questions 4, “What should the principles be for knowledge exchange processes in NYC?”, and 5, “What should the outcomes be for knowledge exchange processes in NYC?”, respectively, as shown in **Figures 3 and 4**. The themes were a

starting point for developing a Theory of Change framework, which was the focus of Workshop 2. Full responses from all participants are listed in **Appendix A**.

WORKSHOP 2 OBJECTIVES

Participants from CKE 2021 as well as CKE 2022 Workshop 1 expressed a universal sentiment of frustration about the lack of action thus far taken on knowledge exchange processes. Therefore, the objectives of Workshop 2 were to define several Theory of Change pathways and co-develop concrete

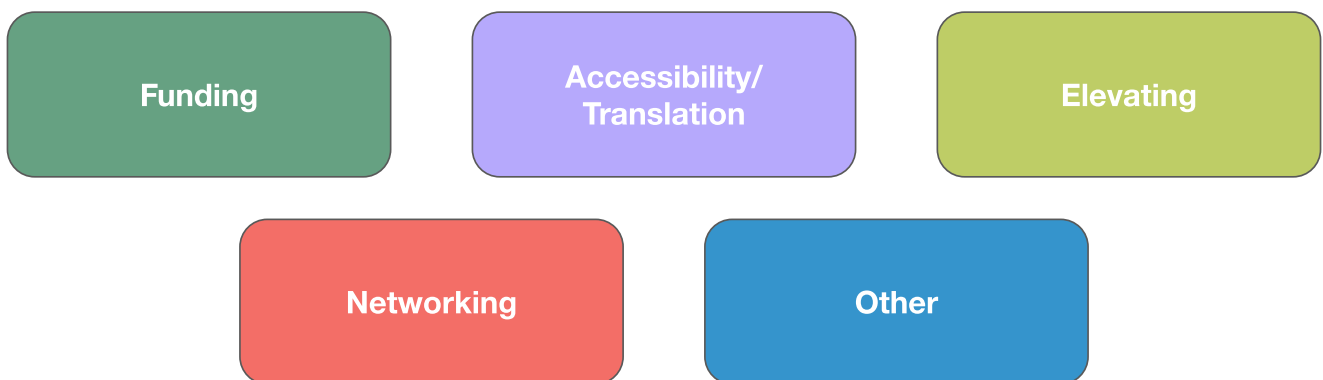


Figure 4. Key Themes from Workshop

Table 2. Draft Theory of Change

Problem Statements	Causal Pathways	End Goal
<ul style="list-style-type: none"> -Climate change is a complex and evolving threat -Climate intersects with many, if not all, existing concerns like health, jobs, education, etc. -Existing collaborative spaces to support action with learning and information sharing are one-way, one-off, action-less, inaccessible, and/or insufficiently supported. 	<ul style="list-style-type: none"> -Funding -Accessibility/Translation -Networking -Elevating -Others? 	<ul style="list-style-type: none"> -The Climate Knowledge Exchange becomes a hub that supports networked efforts around New York City that supports multi-way, flexible learning and ongoing sharing of values, ideas, information, and practice. The CKE leads to principled approaches building on community values and leads to actionable information and solutions, as well as political will to address evolving challenges.

and actionable steps to build out each pathway.

A **Theory of Change (ToC)** is a tool for planning, implementing, and evaluating an initiative. ToCs are typically comprised of:

- A problem statement, wherein the challenge to be addressed is fully articulated;
- An end goal, the “big picture” outcome to which the program resources and activities are aimed; and
- The pathways that lead to achieving that outcome.

Workshop hosts shared a draft ToC (**Table 2**) with attendees. The draft causal pathways in **Table 2** were drawn from the five themes that had emerged from the question prompts and participant discussions during Workshop 1. These five themes were: funding, accessibility/translation, networking, elevating, and an “other” category to spur exploration of other possible pathways. During Workshop 2, participants worked in five small groups to co-develop short-, medium-, and long-term outcomes for each of the five causal pathways, which would help identify actions that could be taken at various time periods. Since each pathway is unique and requires different outcomes to achieve the end goal, no specific time frames were defined for the short-, medium-, and long-term outcomes.

WORKSHOP 2 OUTPUTS: THEORY OF CHANGE

To enable participants to identify short-, medium-, and long-term outcomes, the five causal pathways

were further developed into the following statements:

1) Sustained funding is achieved, 2) Information is accessible to all, 3) Partnerships with diverse stakeholders are established, 4) Multi-way exchanges that elevate diverse knowledge and account for power dynamics are established, and 5) Brave spaces for listening & learning are fostered.

The fifth pathway emerged as a result of participant discussion on the topic that “safe spaces” are needed to foster inclusive platforms for exchange, creating an environment where people feel safe, comfortable, and heard. A safe space is one that does not incite judgment based on identity or experience and the ultimate goal is to provide support. On the other hand, a brave space encourages dialogue and holds individuals accountable to do the work of sharing experiences and coming to new understandings. Brave spaces emphasize the need for courage rather than the illusion of safety in reflective dialogue around controversial or contested topics.⁵

Following Workshop 2, all Miro Boards were reviewed, analyzed, and cross-referenced with notes captured from the group discussions. Conversations from the Zoom chat box were also reviewed as input to the pathways. Drawing from this collection of information, the following tables (**Table 3**) were created to summarize the short-, medium-, and long-term outcomes for each of the five causal pathways that would lead toward the end goal. (See **Appendix B** for the full, compiled notes from each of the five break-out groups.)

⁵ Citation: Arao, B. and K. Clemens. “From Safe Spaces to Brave Spaces.” *The Art of Effective Facilitation: Reflections from social justice educators*, Stylus Publishing, LLC, 2013, pp. 7.

Table 3. Short-, Medium-, and Long-Term Outcomes for Each Causal Pathway

Pathway 1 Funding: Sustained funding is achieved		
Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> -Identify different financial needs (research vs project work) -Identify grants to apply for that will serve different financial needs -Identify private investors that are interested in climate change and resilience projects -City agencies help support community grant writing process from the start -Funding to support community participation 	<ul style="list-style-type: none"> -Develop process for connecting funders to projects -Improve alignment of resource distribution with EJ -Build on existing grants and build ownership -Assemble grant writing team/ department, or point person to oversee grant writing -Continued evaluation of funding needs and opportunities 	<ul style="list-style-type: none"> -Establish a pipeline of demonstrable capacity for funds -Establish a central CKE hub (city or not) to write grants in support of network members -Equitably distribute funding among communities -Embed community members in this from start to finish as part of a consulting team in addition to adding value to data points -Focus on resources, building capacity, skills -Establish clear mechanism by funding source on how to pay/ incentivize participation from different groups/needs

Pathway 2 Accessibility and Translation: Information is accessible to all		
Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> -Identify existing barriers to accessibility -Identify existing case studies and information hubs -Identify different audiences, access points, and data needs -Identify different data formats, outputs, and distribution methods -Identify access points and different opportunities to disseminate information 	<ul style="list-style-type: none"> -Identify solutions to overcome barriers and access points -Address and overcome bureaucratic hurdles -Develop pathways and processes for action and continued communication -Develop different formats and access points for different audiences in applicable languages 	<ul style="list-style-type: none"> -Create a digital repository of community NGO and agency project work (case studies) available in different languages -Continue to create different methods and formats to distribute information -Create structure/committee to revisit information exchange processes and pathways annually -Knowledge exchange is multi-directional, relational and reciprocal

Pathway 3		
Networking: Partnerships with diverse stakeholders are established		
Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Identify current partnerships and projects with city agencies, NGOs, and community - Identify different engagement types (research, training, climate action, resiliency) - Identify different audiences and barriers to networking and engagement (language, literacy, etc) - Identify and learn about the communities' priorities and needs - Identify different ways to approach and engage with the community based on their preference 	<ul style="list-style-type: none"> - Develop ways CKE can build capacity to maintain networks, projects, and partnerships while building trust - Explore opportunities and pathways to engage community members in different environments at all ages - Develop ways to address language barriers and gaps between community input and end products - Co-create a community agreement that lays out values and goals for engagement processes - Establish ways to help the community with targeting their priorities and having their needs met 	<ul style="list-style-type: none"> - Map existing networks and track projects with city agencies, NGOs, and community members - Establish long-term and cross-sector relationships founded on trust to bring government and community together follow through - Establish diverse forms of networking that serve the different audiences and their needs - Empower community members to engage - Empower communities to take the lead in hosting knowledge exchanges and trainings

Pathway 4		
Elevating: Multi-way exchanges that elevate diverse knowledge and account for power dynamics are established		
Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Develop a map of current engagement structure and barriers to participation (esp. targeting youth & Indigenous voices) - Develop and begin implementing plan to overcome barriers -- and to increase transparency, agency, and accountability - Initiate conversations that are co-produced and will be sustained over the medium- and long-term - Build in deep integration of multiple knowledge systems, and resources from different types of organizations/actors - Brainstorm plans for funding mechanisms and for shared resources to co-produce 	<ul style="list-style-type: none"> - Build meaningful capacity and trust among all actors - Iterative check-ins and workshops to ensure that listening, conflict resolution, and collaboration skills are growing - Identify funding mechanisms, especially for community planning - Launch resources for sharing community stories and other resources 	<ul style="list-style-type: none"> - Trust, sustained collaboration, and multiple knowledge systems are the norm - Systems of power/knowledge do not take advantage of community groups - Communities are given power to hold agencies accountable, and not forced to bear the burden - Sustained funding sources

Pathway 5		
Other: Brave spaces for listening & learning are fostered		
Short-Term Outcomes	Medium-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> -Share stories of marginalization and discrimination, as well as visions for the future -Acknowledging and learning about past wrongs as part of a healing process, in addition to directly addressing barriers -Develop competencies for listening 	<ul style="list-style-type: none"> -Create safe spaces for sharing of existing and past work 	<ul style="list-style-type: none"> -Foster strong relationships and trust -Information exchange inspires action after knowledge is shared -Ensure local needs are prioritized -Establish clear continuity in processes -Codify CKE funding/support into NYC law

These Theory of Change tables provide a baseline framework for the CKE. The ideas and outcomes captured here are meant to change and evolve as the group gains clarity on the outcomes for the program. For example, the pathway titled “Other” was changed to “Brave Spaces” based on a thread of comments and discussions about cultivating a place of safety to talk about vulnerabilities, challenges, and injustices.

WORKSHOP 3 OBJECTIVES

The objectives of Workshop 3 were to refine the Theory of Change pathways and CKE principles and to work toward creating a plan of action. Participants were presented with the pathway tables and asked to provide group feedback on the synthesis of information. Following these discussions, individual participant feedback was collected through Mentimeter for the following questions:

1. What are the best ways to advance shared leadership of the CKE?
2. What should the indicators be for each pathway?
3. Who is already collecting data/information, and what does this look like?
4. What data/information can the CKE collect in order to fill in gaps?

Participants were also presented with a draft of CKE principles based on discussions from the previous two workshops, and feedback on each principle was gathered through a group discussion.

WORKSHOP 3 OUTPUTS: REFINING PATHWAYS & PRINCIPLES

In response to Question 1, “What are the best ways to advance shared leadership of the CKE?” participants indicated that the creation of a coordinating body to organize and lead the CKE moving forward would be the best option, followed by funding for more pilot efforts and program development, as shown in **Figure 5**.

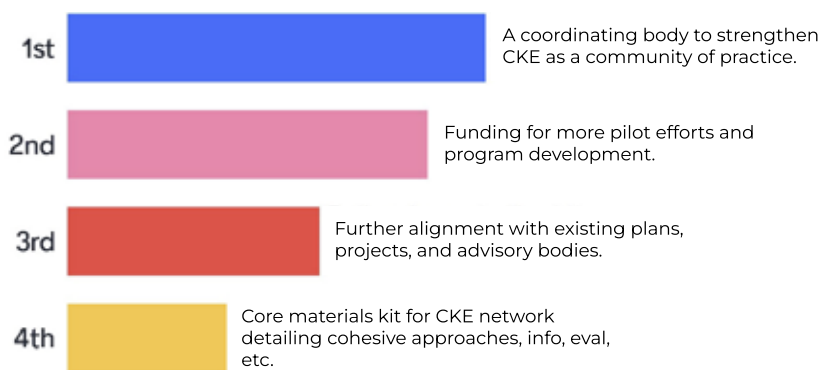
For Question 2, “What should the indicators be for each pathway?”, participants suggested that a range of both qualitative and quantitative indicators would be relevant (**Appendix C**).

In response to Question 3, “Who is already collecting data/information, and what does this look like?”, participants replied that there already exists a host of climate, health, and environmental data and information (**Appendix C**). Building on this repository, participants also shared new data/information they thought the CKE could collect to fill gaps (Question 4), such as information on local perceptions of different resiliency strategies, increasing understanding the degree to which climate issues are already part of community-based activities or discussions, and neighborhood asset mapping. A comprehensive list of ideas for new data and information is shown in **Appendix C**.

Finally, **Table 4** shows the list of updated principles after groups incorporated their feedback on the original draft. This list is intended to be iterative and the principles may change over time with continued discussion.

Figure 5. Mentimeter Feedback: Advancing Shared Leadership of the CKE (Q1)

What are the best ways to advance shared leadership of CKE?



Climate Knowledge Exchange Detailed Principles
1. Grow a sustained, long-term network of collaborators who support knowledge exchange related to New York City and espouse the Climate Knowledge Exchange principles for the purpose of deepening shared knowledge about climate and how we cope with it.
2. Respect all forms of knowledge, expertise, and ideas inclusive of race, gender, age, multi-generational thinking, culture, education, or institutional background.
3. Build and maintain trust and mutually respectful relationships and leverage existing trust between the public and community organizations, creating brave spaces wherever needed.
4. Foster learning through multi-way exchange of knowledge especially for communities that have been excluded from resources and previous participation or engagement, with a commitment to addressing historical injustices and to environmental and climate justice.
5. Cultivate different approaches for knowledge exchange that can be rooted in, among other things, communication, education, research, or capacity building.
6. Share the outputs of knowledge exchange among the network and clarify meaning wherever needed.
7. Make knowledge exchange more accessible by providing translation services for multiple languages.
8. Seek to distribute resources (funding, people power, etc) for knowledge exchange across the network including compensation for participation time.
9. Advance evidence-based learning and refinement of the CKE Theory of Change with input from all participants.
10. Facilitate ideas, information, and solutions from knowledge exchange to decision-makers and people in power and facilitate a bi-directional dialogue between communities and community advocates and decision-makers.

POST WORKSHOP COMMUNITY UPDATES

Here we feature examples of the current environmental justice and climate resilience work of CKE participants and groups. In the spirit of knowledge exchange, we hope that this feature will help make the broader NYC climate community more aware of the many important projects that are occurring – especially those that represent community-led initiatives.

The Consortium for Climate Risk in the Urban Northeast (CCRUN)

In the summer of 2022, the [Consortium for Climate Risk in the Urban Northeast \(CCRUN\)](#), a NOAA RISA team that works to reduce climate-related vulnerability in the region, launched its Community Climate Resilience (CCR) Grant Competition. The goal of the CCR competition is to support community-based organizations working with vulnerable populations on community-focused planning and action-oriented projects that improve weather and climate hazard preparedness and resilience. Communities in the urban Northeast are exposed to a range of climate-related risks and extremes including heat waves, inland and coastal flooding, extreme precipitation, and other weather events, often compounded by other sources of social and economic inequality.

The CCR competition is awarding four one-year grants of \$25,000 each to organizations working with socially vulnerable groups on projects between Philadelphia and Boston that improve community resilience. The CCR program supports projects that focus on improving preparedness, adaptation, and resilience, reducing risks of climate variability and change in vulnerable communities, identifying strategies that improve preparedness and resilience, and enhancing equity.

CCR grantees represent a diverse set of organizations working across the region, and will participate in a community of practice to allow for knowledge exchange and collaboration across projects, aligning with the goals of the CKE. The CCRUN research team will work collaboratively with each grantee to support implementation of their projects, and continue the program's commitment to co-production of knowledge and stakeholder-driven research. To learn more about the CCR Grant program, please visit our [website](#).

Center for Urban Environmental Reform

The [Center for Urban Environmental Reform](#) just released Troop's Run, the third installment of the Environmental Justice Chronicles. It is available for download [here](#). As always, the book can be downloaded and used for educational and non-commercial purposes.

Book Summary:

Forestville is once again under threat—this time from a fossil fuel pipeline that might jeopardize all the progress our environmental heroes have achieved so far. To save their community, Mayah, Bina, and Troop venture into electoral politics. Running on a climate justice platform, Troop faces off against a much better funded opponent, C.C. DeNeier. As Troop's past comes back to haunt him, the B-Squad has his back. Their advocacy helps voters connects the dots between sustainability, equity, and a just transition. On election day, will Forestville voters decisively reject the invitation to “be a DeNeier” and embrace a new path forward?

The Resilient Coastal Communities Project (RCCP)

In November 2021, the Columbia Climate School, in partnership with the New York City Environmental Justice Alliance, created the [Resilient Coastal Communities Project](#) (RCCP) to help foster actionable, equitable solutions to climate-related flood risks along with complementary benefits like habitat restoration, job creation and more empowered communities. RCCP's first initiative was to invite ten front-line community organizations to share their resilience planning experiences, provide their perspectives on what truly just and equitable planning processes would look like, and explain what resources they would need in order to participate effectively in such work. The resulting discussions (summarized in a June 2022 [working paper](#)) document the need for flood protection planning that doesn't simply give the community the chance to comment on plans that are largely complete by the time they're shared, but instead *centers community expertise at every step of the planning process*.

The RCCP team believes that just and effective resilience planning will only be possible when community efforts to participate are fully valued and well supported and when social cohesion and restorative justice are prioritized. To help to achieve these goals, the RCCP recently joined two dozen community and environmental organizations in [challenging the US Army Corps of Engineers](#) to establish an Environment and Climate Justice Working Group and to make it a full partner in the creation of the Corps' long anticipated [NY-NJ Harbor and Tributaries Study](#), which will set the tone for coastal protection planning in our region for decades to come.

Waterfront Alliance

In 2019, [Waterfront Alliance](#) convened a Resilience Task Force of more than 400 leaders in New York and New Jersey with the goal of building consensus on a comprehensive set of policies and investments needed to promote climate resilience across the region. Out of this effort, the Rise to Resilience coalition was born. [Rise to Resilience](#) is a campaign and coalition spearheaded by the Waterfront Alliance that is comprised of more than 100 organizations representing residents, leaders in business, labor, justice, scientists, environmental advocates, and design professionals collectively calling on our federal, state, and local governments to make building climate resilience an urgent policy priority. The coalition is centered on six points of unity: (1) Infrastructure and housing must be safe and resilient to future conditions, (2) Information needs to be transparent and accessible, (3) Adaptation strategies must be based in science and community-driven, (4) Public and private investments in resilience must flow to all, but especially those at greatest risk: low income communities and communities of color, (5) Well-paying, locally hired, long-term green jobs are the basis of a resilient economy for all, and (6) Solutions should address both human needs and protect and restore wildlife and their habitats.

The future of our communities, jobs, safety, health, infrastructure, and natural habitats are all at risk from flooding and other impacts associated with climate change. We need bold, inclusive, community- and evidence-based action from policymakers at every level of government. Rise to Resilience is building a broad-based movement to make it happen.

FUTURE ACTIONABLE STEPS

GOVERNING BODY

While the CKE is meant to be a decentralized, collaborative program that serves as a connective platform across ongoing community-led engagements, it will need a governing or coordinating body to foster collaboration and maintain relationships. Given the vast amount of feedback and data obtained in the 2022 workshops, the governing body will need to determine the limits and capacities of the program as well as acquire funding to sustain themselves and convene future workshops.

FUNDING

Funding will be needed to support the CKE and its mission to increase capacity for just climate action across the greater NYC area. As a long-term outcome, the CKE should establish a pipeline of demonstrable capacity for funds at national, state, and city levels and develop processes for equitable project-community distribution. As a short-term outcome, one step is to identify different financial needs and the next is to work toward building a database of potential funders. Other critical steps are to identify and leverage existing and related funding opportunities, to increase access and knowledge about potential funding opportunities, and to embed communities into the grant writing and funding processes. Grant writing support for community members will help build capacity for current and future projects and serve to strengthen relationships. Through these many mechanisms, the CKE can work to connect funders to projects, increase community capacity, and equitably support climate action across the city.

TRACKING AND MAPPING

Because access and translation are key to progressing education and building trust, a system should be developed to track and map current climate action projects, seminars, training, and educational activities. This will greatly serve the public and help to progress the CKE program. One of the challenges the CKE will face is finding ways to communicate effectively with different audiences. For example, science is not always translated in a format or language that can reach different people. Additionally, competing facts or unreliable sources can complicate the sharing of climate information. As a long-term outcome (outlined in the Accessibility/Translation Pathway), the CKE should create a digital repository of community, NGO, academic, and agency project work. This repository would be available to the general public and accessible in different languages so that communities could access various data formats and learn about past and ongoing projects in their environments. Many projects were identified during the workshops and therefore this repository would not need to be created from scratch.

APPENDICES

APPENDIX A: WORKSHOP MENTIMETER RESPONSES

How does 'knowledge exchange' complement communication, education, engagement, and research? What other components are needed?

- Each feeds the other and allows for collaboration and sharing of information and resources. This is very important.
- These are all pieces of knowledge exchange; it needs to be a dynamic process that has clear end goals and gains for folks involved (and transparency about the limits of those goals)
- It can provide a good overview of the landscape of work happening at the city level, what others are doing in this space, and identify needs.
- Transparency regarding perspectives of different participants
- Communication, education, and engagement are all FORMS OF knowledge exchange. Research is a form of knowledge PRODUCTION.
- It can be a platform for synthesizing multiple forms of knowledge and experience; however, to activate and make use requires unlearning and knowing how to access alternative forms of knowledge. Challenge of governance/power/politics.
- Genuine knowledge exchange--actually receiving information rather than disseminating it might completely transform the City's priorities.
- Communities know so much about their lived situation. That is essential and expert knowledge
- Provides a common set of baseline knowledge/information.
- Need targeted outreach to hit desired audiences
- What else is needed? Respecting different voices and opinions, developing cultural competence, learning new ways of co-creating knowledge
- If people are taking the time to share knowledge and communicate, there needs to be a way that people feel like their inputs are valued and considered.
- Important themes or focus areas not previously known by an individual may be revealed through knowledge exchange
- Power analysis is needed
- Knowledge exchange, while important, is too passive, we need to also be talking about planning and action with the knowledge that we are sharing
- To be inclusive. it opens up space for more perspectives to share and be involved in sharing knowledge/understanding of system
- Integration into current decision making processes
- We need more public forums to share experience and knowledge about climate change and mobilize for action
- Understanding of historical context. The sharing of tools/resources
- Case studies are needed.
- Knowledge exchange is the overall umbrella to overall communication, education, education and research. Need inclusion, knowledge transfer, dialogue and different perspectives too.
- It can create a shared language needed to facilitate communication and transparent knowledge sharing.
- Action is critical - linking the action outcomes to the knowledge exchange, tracking these links will be important to solving climate impacts
- It has the possibility to be more inclusive and narrative than other forms of engagement.
- Engagement and education are often conducted about a specific initiative; knowledge exchange allows for the opportunity to develop a broader understanding of how multiple conditions and initiatives fit together
- Helpful to keep goals of the exchange as transparent as possible!
- Needs to be inclusive of as many voices/communities as possible - what do communities know about what's happening and what do they want/need to know.
- Curriculum for implementation in schools and ways of disseminating information into the communities. I think a great way to do that is by going through the schools so you can reach large groups of families within one community.
- To achieve these things, three things would be helpful: 1. funding for participation; 2. commitment to trust building; 3. a clear demonstration of how community knowledge will lead to change in city policy and project selection
- Community members are experts in their lived experience. We need to value and include that knowledge.
- Education requires the multidirectional dynamics of "knowledge exchange." It is also rife with the power imbalances that Kwabena mentioned. Careful attention to these in communication, research and engagement are critical
- It makes these avenues more comprehensive, capturing a greater collection of views. What other components? Repeated outreach over time to capture evolving knowledge.
- Knowledge Exchange is about exchanging - what are the ways in which we facilitate multiple paths for sharing different understandings
- Values and priorities, not just knowledge, need to be

in the mix.

- To echo what was shared in discussion, naming the links or disconnects between knowledge and power (incl. resources, networks, info). Creating transparency around access points to institutional decision makers. All this opens up pathways to action.`
- Examples are good for sure. Need context of why before the exchange.
- Knowledge brokers and community translators are needed
- Determining whether that exchange is extractive or supportive- do we take more than give, do we increase the capacity of communities, is decision making shared, etc...
- Knowledge Exchange is can help set common understanding that folks can use to advocate for their own (or their community's or constituent's) needs
- Knowledge exchange should feed into research by identifying critical information/knowledge needed to promote community-based adaptation
- It helps to ensure that these components are grounded in the knowledge and lived experiences of residents. But planning and funding for direct action is also needed.
- Community expertise should be treated like engineering expertise, or legal expertise and compensated appropriately.
- Considerations of accessibility (language, etc)
- Related to what was mentioned in the presentation, I think all of these activities complement each other by creating/sustaining relationships that have many dimensions: knowledge, care, action, politics, etc.
- Key components are trust and capacity
- It can be helpful to identify ways that multiple intergenerational voices can be heard, so they can engage in information sharing, decision-making, and power-sharing.
- "Knowledge" (inclusive) as a term is better than "expertise" (exclusive) but still feels hollow without a clear mapping/ understanding of complex long term public decision making processes -- back to the access points topic.
- We need to make sure that the voices of those with privilege do not drown out other voices. Far too many "public participation" efforts just garner the thoughts of those who are educated, well-off, white, etc
- Knowledge exchange should be inclusive and meaningful to all participants - they should feel like the time they spend contributing is worthwhile.
- Intentional inclusivity and accessibility and expansiveness into how communication and sharing experiences/insights and engagement can take place. Also the fact that these approaches are continuous and ongoing.
- Actions speak louder than words. While communication, education, engagement, and research are extremely important, what communities really need is to see actual work!
- Continually reiterating the purpose, process and desired outcomes of the CKE because most people come in and out of these processes and it's difficult to manage the various levels of knowledge people have throughout.
- It provides a space for connection and collaboration across. I really love the point about multi-generational voices across each of these areas. Inclusivity is key
- Knowledge exchange should also include acknowledging history / reshaping the stories through creating platforms to amplify silenced histories - in addition to all the future climate talk.
- We need to share the exchange with the community
- Clear explanations of processes where opportunities for advocating/implementing change are identified
- An awareness of how different knowledge is valued (scientific knowledge vs community knowledge) is important.
- Improves decision-make capacity
- Better research outcomes
- utility of knowledge is broader (community utility & research utility)
- Proving that people have been heard in a meaningful way will help keep people engaged and will invite more people to participate
- Ability on the part of city and other agencies to genuinely follow through on community understanding and priorities - either by meeting needs or by being able to honestly articulate why they cannot in a timely way
- Knowledge exchange lends legitimacy to the work and credibility to outcomes. What's missing? Maybe political decision making.
- Creating actionable science is a key challenge
- I see knowledge exchange as a platform that works to brings together all voices to improve each of these components (communication, education, engagement and research) across NYC
- Sensitivity to cultural context is also critical
- Better connecting climate/environmental knowledge to urgent urban policy topics that affect day to day life like intersecting health crises, housing instability, jobs, and long/delayed commutes to work or school.
- Common understanding
- Definitive information
- Meet audiences where they are
- Change through time
- Single place for relevant research and data
- Communication about shifting baselines

What's working with knowledge exchange processes in NYC?



What could be improved with knowledge exchanges processes in NYC?



What should the principles be for knowledge exchange processes in NYC?

- Equity
- Open
- Accessibility
- Clarity
- Respect for all voices
- Power sharing
- Lead to action
- Non-extractive
- Checking privilege
- Just and multidirectional
- Documented
- Checking assumptions
- Concrete
- Addresses different temporal realities
- Practical implementation feasibility, consistency, maintenance to keep updated
- Action-oriented; actionable
- Useful
- Open to community research needs, not just scientists
- Comprehensive
- Not just one-offs
- Transparent
- Clear purpose
- Reciprocity
- Be real
- Shared authority
- Transparency about the benefits of knowledge exchange
- Solidarity
- Knowledge exchange should be multi-modal to increase inclusivity.
- Mutual learning
- Open source
- Environmental Justice and Climate Justice must be the core outcomes not window dressing
- Clear communication on how knowledge will be applied and translated into action. Real timelines, real policy, and real commitments that don't require unnecessary oversight or politics
- Inclusive representation across organizations - making sure everyone is represented and has a voice (community members particularly)
- Tangible
- Acknowledge tradeoffs between different goals
- Shared decision-making
- Accountability
- It should be dynamic, two-way and the change it leads to should be measured and celebrated.
- Articulate tradeoffs - why your time/knowledge matters
- In the service of institutional change
- Acknowledgement
- Inclusion, equity, building genuine trust
- Ensure many opportunities to contribute - make it as accessible as possible
- Long-term and committed to integrating the exchanged climate knowledge at every level of decision-making.
- Non-hierarchical
- Hearing the concerns of community members
- Engage communities on the ground that are most vulnerable to climate impacts and ensure that they are included in meaningful processes that are accessible to them and that result in tangible improvements to their communities.
- Sustained engagement
- Acknowledge limitations of research, disconnects+bridges between research and policy making/public investment processes
- Pathways for continued maintenance / implementation. ongoing communication and actions for accountability.
- Prioritize communities that are underserved
- A way to measure success in translating exchanges to action and impact
- Recognize that some actions are new others are a redirection of existing action toward resilience and equity
- No one should exclusively own the knowledge exchange process.
- As a means of redistributing power
- Equity: expressed in multiple ways to engage/ access points; empowering folks most often left out of these spaces to be not only included but centered.
- Communities need action. There's no more time for talk.
- Be clear about power and limitations of government and universities who are the ones convening knowledge exchange forums Built into a wider system that advances climate action; connected to community activists and organizers as well

- Participatory democratic processes beginning with small communities that choose their own leaders to communicate their choices and processes upwards in order to grow into larger scopes
- Be clear about action by whom, for whom?
- Balance urgency of climate change with the need to be inclusive and anti-racist
- Articulate power/limitations of individuals to dismantle unjust institutions and systems
- Acknowledge limitations of knowledge exchange
- Invite communities to work these processes within certain land issues that they might be facing, in particular use of empty (unused) lots into turning them into community gardens and tiny forests (through the Miyawaki method)
- Bottom up
- Access to decision making, also the city needs to be real about what is and is not possible as part of the exchange of knowledge
- Systemic and equitable
- Integrated and comprehensive
- Communities are empowered to hold collaborators accountable.
- Not only pathways towards practical implementation, but towards systemic changes in processes and structures.
- Follow through and consistency with attention, even increasing attention as time goes by.
- Responsibility from community stakeholders to support collaborative action taken in good faith by the city!
- Listen to community concerns
- Community knows itself best (not necessarily their elected leaders)
- Understanding that planned retreat is likely going to be needed in increasingly more and more communities - how to communicate that and prepare for those inevitabilities.
- Concrete recommendations for change, not just a report
- Keeping each agency informed about whole community context when new initiatives/projects are proposed in a community

What should the outcomes be for knowledge exchange processes in NYC?

- Funding
- Action; preparedness for action
- Relationships
- How to replicate outcomes like the Edgemere Land Trust
- On the ground projects
- Uplifting and supporting community planning and goals
- Integration into every city agency
- Fully funded resilience solutions that protect the largest number of most vulnerable citizens/communities.
- Concrete recommendations for change directed at specific actors
- Creating and sharing knowledge that leads to action and empowers communities
- Increased coordination between city agencies to work together to find new solutions rather than “not my problem” attitude
- Code of ethics, shared best practices for working with communities and translating knowledge to action
- Pathways for a fundamental shift toward a resilient urban future
- Pathways to action for change
- Knowledge how to do sustained inclusive engagement
- Resilient communities that were empowered to drive action.
- More tiny forests, community gardens, less luxury buildings, work towards retrofitting big buildings and constructing new bldgs. with zero net in mind, climate adaptation across the lifespans of all NYC inhabitants
- Immediate, middle-term, and long-term change
- Ways to help inform policy and action for a just and sustainable New York Have all levels of government come together to see that at-risk communities get the help that’s needed.
- A network of actors committed to change and empowered to make it happen
- Short-term outcomes: trust building, power sharing, empowerment, knowledge growth, skill development
- A mix of actions communities can TAKE themselves and those that must be ADVOCATED for
- Impact prevention as much as possible, rather than just impact response
- A recognition of the scale of change needed and pathways to get there
- Actionable solutions by typology of building neighborhood
- Ongoing (regular, sustained) forums for community members to voice their NEEDS, experience, knowledge. Funding should go to community leaders to lead those convenings.
- The science is the science, this is a social and political question now
- Actionable data that ties into FEMA- and other grant funded opportunities (like the Flood Net project)
- A fully staffed, funded and empowered office of public participation at every agency
- Sharing of knowledge about what the city and communities have done
- Better decision making processes
- Community Advisory Committees embedded in every step of project planning
- Guidance for agency personnel for best practices
- Long-term outcomes: locally-relevant actions, community resilience, network infrastructure for continued collaboration
- Clearer connection/understanding between climate risk / vulnerability and government action
- The development of new ways to meaningfully empower communities’ to use their voices and truly provides recourse for decision making. No more of this year’s long exercises in futility that takes up our time and ignores our needs
- Better policy
- Bigger tent, coalition building across climate/ environmental groups in NYC
- Actions resulting in resilient communities - resilient to climate change, resilient to the chronic emergencies (housing and job insecurity) in order to prevent displacement
- Resiliency projects that meet the needs of communities but don’t contribute to climate gentrification
- A more livable, equitable. and sustainable city
- Increased capacity by community stewardship organizations to participate in decision making
- Leaving people feeling heard. An understanding that top down and bottom up are working together. Moving towards true preparedness.
- Trust and a greater sense of planning and collaboration.

APPENDIX B: WORKSHOP 2 BREAK-OUT GROUP NOTES ON THEORY OF CHANGE PATHWAYS

Theory of Change Pathway: **Funding**

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Multiple grant programs are available for supporting this work - Support for meeting facilitation is available - Support for grant writing is available - Residents and communities are compensated for participation - The City supports community access to federal funds 	<ul style="list-style-type: none"> - Approach funders & convince those to put more money into community planning - List of potential funders identified - CKE hosts forums with funders - Identify private investors who are interested in climate change projects - Create a network between funders and potential funding projects - Better align resource distribution with EJ - Assemble grant writing team/dept., or point person to oversee grant writing - Compile existing funding sources that members of CKE are already using to do climate-related work (even if they're not specifically labeled as related to climate); create a database - Looking to embed community members in this from start to finish as part of a consulting team in addition to adding value to data points - Community members are included in the grant writing process from the start - Starts the conversation on volunteerism and setting the expectation of its inclusivity - Receiving short-term funding/resources to sustain both small/large groups - Create work plan and analysis - Finding a way to piggyback --> grants that are already there, how can you build upon that existing grant and build ownership? Leveraging! - Putting things in diff buckets, a list of potential funders that may be research based, capacity building, conferences... what are the buckets of these essential projects? Define what is needed for each - Where are the major funders? How can you build a pipeline of demonstrable capacity for funds? 	<ul style="list-style-type: none"> - Long-term funding in place, new mechanisms beyond 2-3 years grant used by more funders - Grant-writing to support CKE - regrants, city projects - Secure at the ready funding capacity - Central CKE hub (city or not) needs to write grants to support network members - City needs to support grant applications of CKE network - Explore/secure city funding - Continuing evaluation of needs and opportunities - Clear mechanism by funding source on how to pay/incentivize participation - Establish continuity and leadership to oversee CKE + funding 	<ul style="list-style-type: none"> - Sustained funding is achieved - Education and green training established and taught throughout community that lead to jobs - Metrics exist for capacity building - Research is extended over time, community is involved - Continuity between people involved, new additions - Focus on resources, building capacity, skills - Equitably distributing funding among communities - Dedicated funding established for this infrastructure (office, body, program etc.) regardless of administration

Theory of Change Pathway: **Accessibility/Translation**

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Knowledge is decolonized to elevate community & resident experience - Science is translated into clear, contextual, and meaningful information - There is a long-term site where people can go for reliable science and information - Effective communication tools are used to reach many audiences (language, literacy, cultural backgrounds, etc) are critical - Science is translated into materials for different age groups and culturally specific groups - More science translation positions (e.g. extension) 	<ul style="list-style-type: none"> - Translating the data into simple formats (i.e. CSV); DOH, health department are examples of good data translation but are still not reaching communities - Identify niche groups in communities that can help disseminate information - Hosting focus groups with communities to understand how to translate information - Create a more engaging way to translate/ deliver information to those who aren't interested in the science/ don't have time to invest in learning the science behind it - Getting a handful of people involved who are uncomfortable /turned off by the science-ness of these conversations. Their input would be critical to reaching more people outside of our bubble. - Make it personal. e.g. cigarettes affect health - Site would provide implications on a more local level (i.e., meaningful for communities) - Long-term planning with community - Current information hubs are identified - Streamline bureaucracy to make govt outreach more efficient and adaptable - Connect with community organizations to build capacity in the communities - Identifying and supporting a trusted advisor / community leader to convey information - List of existing work and success stories - Thinking of different formats apart from books such as media, workshops, etc - Identify most effective ways for information to be construed (e.g. visual communication, posters, pamphlets, interactive exchanges) - Discussing criteria required to be able to upload documents to the repository - Find and use qualitative data in policy- and decision-making - Train volunteers in participation - Complement the science with descriptions of what these projections mean for people's day to day and quality of life - Redefining what translation means - Identify the barriers to accessibility - Identify how to "meet people where they are" and bring the information to them 	<ul style="list-style-type: none"> - Support from within the agency to keep the data alive (function of office or agency of public participation to walk through) - Structural reset/shift - look at CKE as a model as a conversation for different projects - Communication/ bureaucratic hurdles are alleviated - Clear (commonly agreed on) location where information is posted - Determine solutions to address/overcome barriers identified in short term - Create pathways/ processes for action and/or continued communication once information is exchanged - Establish formal pathways of bringing the knowledge to the people where they are - Form safe spaces to exchange (inclusive, where people feel they belong) and can safely exchange information - Share climate data through a platform for agencies and other stakeholders to use the actual data, not just a summary. Build out platforms so data can be available to everyone through various media. Also promote the material out to everyone. 	<ul style="list-style-type: none"> - Information is accessible to all - Information is translated to be clear and meaningful - information is customized and relevant to particular groups - Information exchange inspires action after knowledge is shared - Information exchange is more relational, reciprocal - Multi-way communication is established - Create visual communications (comic books); symbols that are understandable to everyone; broad but also specific and relevant enough - Communications are accessible in various languages - Establish a long-term plan with community members re activities - A digital repository containing local information, NGO reports, videos - Different methods of distributing information e.g., books, digital, workshops etc - Create structure/ committee to revisit information exchange processes and pathways annually - Ensure that trust is established between communities and CKE/ information providers

Theory of Change Pathway: **Accessibility/Translation**

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
	<ul style="list-style-type: none"> -End users - if we're sharing knowledge & plans, are we including all people new to the realm & sector. Identify this community who is interested and has capacity to learn, just not entrenched in the language and caught up in the technical vocab -Process outcome: there is so much similar work happening right now, how can we coordinate them together? If we have similar efforts within the same community, it can be burdensome. How can we coordinate similar initiatives? (Engagement fatigue) -Survey across the city to see what is happening, what initiatives occurred? Identify what the city has already done to inform other programs. Who is doing what, where, and what the impact is -Requires constant updating and there needs to be capacity for that! Update websites or an individual asking for updates. Before action, there needs to be capacity and universal buy-in -Identify all people that will be there. Who is creating communication? Relating back to funding, there's a lot of training for science communication. Identify who are all the people developing these materials so all bases are covered in terms of languages, disseminating across the entire community! -Identify existing successes. What is meaningful, digestible information? In order to translate, must know what a successful endpoint looks like. 		

Theory of Change Pathway: **Networking**

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Long-term and cross-sector relationships bring government and community together - Funding and incentives exist for City agencies to break down silos - Diverse hiring processes encourage residents and community leaders to be in impactful positions - Regular listening sessions and other ways to hear from residents are established (e.g. standing time with designated city officer) - The CKE has shared leadership and decision-making structure - Communities are empowered to take lead in hosting knowledge exchanges in ways they see fit (how, where and what time; who can attend, how they're run and what the goals and outcomes) - City staff are trained to support public participation 	<ul style="list-style-type: none"> - Clarifying what the city can actually do for the project rather than creating unrealistic expectations - Regain trust of communities through addressing language barriers, institutionalized language, gap between community input and end product - Creating sustained engagement through fun and connective activities - Understand what the community truly cares about --> help them accomplish THEIR priorities - List of stakeholders/partners identified - CKE structure is shared and co-designed with communities - Create workshops and meetings to foster relationships - Create a venue to connect interested parties/ stakeholders - Develop/share/communicate shared interests in this area - Develop connections beyond usual suspects - Piloting programs around community climate resiliency that incorporate everyone, identify who is leading it, etc - Community led pilot is initiated - Finding intermediaries - Teaching community how to use technology to communicate (making a video on phone / photos), how to tweet, how to join a Google Group etc - Co-creating a community agreement that lays out values and/or goals for how we interact with each other (e.g., setting aside hierarchies and seeing other members as equals) - Networks, maps, links, on the ground - Co-building with communities that are below the radar. How do we get involved? - Ask who is not part of the conversation now and how to include those groups (and in place)? - Identifying existing groups, both functional or not. Not focusing on groups working on climate change alone - Mapping of existing networks and landscape scan - Identify all the ways city currently engages with communities, retrieves data, etc. look for areas of improvement - Work to make sure cities have communities' 	<ul style="list-style-type: none"> - Roles and responsibilities are established and clearly defined; goals are defined - List of stakeholders/ partners reassessed - Through pilot, set of metrics that agencies can adopt are identified that hold agencies accountable - Community-led/ formulated metrics; who measures them - Place-based networking and shared common ground - Tap into mutual aid networks - Trust-building between communities and organizations - Hire community ambassadors, build up the next generation and connect with intergenerational climate experiences. (Philly - My Climate Story, capture the lived experience story of members) --> give viable work experience at different generations - Build capacity for the tools that allow networking to take place effectively 	<ul style="list-style-type: none"> - Partnerships with diverse stakeholders are established - Stakeholder relationships are meaningful (trusting) and stable (reliable) - Diverse forms of networking are recognized - New relationships are continuing to be formed - Goals from pilot are achieved - Trusted partnerships, equitable partnerships - Networking is NOT linear; why are we creating this linear pathway for it? (e.g., developing connections beyond usual suspects is an ongoing thing that we want to think about in short, mid, and long term)

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
	<p>between city and communities, identify any barriers</p> <ul style="list-style-type: none"> -Train personnel for problem-solving -Seeing the conversation move forward! Define the network connection and hub, is there a community that wants to co-produce knowledge? How does the community want to be engaged? Clearly defining the types of connections so the community can decide which initiative/stage they want to be a part of. Then plan action to move forward. -Could there be an integrated STEM program, sustained relationship between teachers and students for community outreach, shared scientific efforts within education -What is the target scale of sharing out information? Local, regional, national? -1. what you need to be aware of. 2. what you need to advocate for. 3. what you need to act on (control of your own personal situation) -How to support youth and young adults at risk of the criminal system with climate resiliency work. How can we support ppl who may not have opportunities with workforce opportunities -Including a Youth Internship Program at the Mayor's Office of Climate Change and EJ! -RiSC Youth Resilience Ambassadors as part of our Resilient Schools Consortium (RiSC) program -Look at workforce development. EX: New Orleans - water efforts coincided with baseline water PD. Climate knowledge connects to workforce opportunities and careers that help lift ppl. Crosstrain and integrate that work into their practice -Health & Climate Change, physician and patient history with climate change. Physician training, pharmacy to patient conversation inclusive conversations to climate change awareness. Networking - who are the sustained, trusted sources are -Identify tools that allow networking to take place effectively 		

Theory of Change Pathway: **Elevating**

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Elevating AKA change power dynamics - We aren't trying to elevate; rather empower? - This term may not be the most appropriate because we don't want to put any one group on a pedestal - Mechanisms exist for identifying and implementing actionable next steps - Equal visibility is given to the materials of different organizations and actors (e.g., academic literature and reports from community based organizations) - A featured location for sharing stories exists - There are mechanisms to funding plans for communities - Decision-making processes have meaningful consultation - Elevate/identify next steps coming out of this process - There are mechanisms to funding plans for communities 	<ul style="list-style-type: none"> - Determine capacity building needs - Celebrate/acknowledge groups for their work - Empowering youth to lead - Don't just validate knowledge of indigenous people. Listen to them! - Low-stakes high-reward competition to infuse joy into difficult work of climate change - Create safe, inclusive spaces - Identify who sits at the table now, identify who "constructed" the table, form map of current structure - Identify who's not at the table currently but should be - Identify barriers that prevent people from joining the table - Start conversations with continuity, trust, repeated, open and sustained dialogue in mind - Transparency, agency, accountability at every step - Begin developing training protocol for community engagement, conflict resolution, collaboration - Multigenerational, not just elevating the youth but elevating those across generations. Connect & collaborate across the community, ages, organizations - Elevate visibility to innovation through awards. Increase visibility to help increase funding potential 	<ul style="list-style-type: none"> - Check-ins to see how people are feeling re feeling elevated - Workshops for developing listening skills - Redesign "table" to be circular instead of square, include those who previously did not have access to the table - Continue conversations with continuity, trust, repeated, open and sustained dialogue in mind - Remove the barriers that prevent more people from coming to the table - Increased collaborative exchange between ALL interested parties, not passing the blame (increased stakeholder collaboration) 	<ul style="list-style-type: none"> - Multi-way exchanges that elevate diverse knowledges and accounts for power dynamics are established - Ensure that trust is established between communities and CKE/information providers - Have the message of community and govt expertise needing to come together come from every level of the govt - Education and instilling different perspectives in the system - Communities are given power to hold agencies accountable, and not be forced to bear the burden; appropriate agency required to alleviate burden - Prevent systems of power/knowledge from taking advantage of groups, absolving themselves from blame - Collaborative commitment to achieve solutions with accountability - Standard is to meet community objectives collectively - Build trust and build/encourage repeated, sustained dialogue regardless of circumstances; must be there for the community (keep promises, keep showing up)

Theory of Change Pathway: **Other**

Ideas from Workshop 1	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> - Making knowledge exchange meaningful for communities - Getting people to think bigger and broader (in scale) by sharing visions - New project design approaches that foster a true partnership with community - Capacity building for greater participation and more meaningful contributions - Connecting with decision makers across all spaces and levels - Connecting to existing/ past work on each of these themes 	<ul style="list-style-type: none"> - Include all decision-makers by connecting funders and various communicative networks - Citizen advisory process that the decision-makers need to attend to eliminate disconnect - Connect knowledge exchange efforts to this/these advisory processes - Feedback mechanism where the decision-makers must take the feedback from communities into account - Telling the story of marginalization and discrimination - Acknowledging past wrongs can be a healing process - Look at neighborhoods that have been redlined - Taking advantage of subway ads - Elevating community knowledge through policy. If this policy is placed at the city level, the law says that the community has to be engaged. Use climate knowledge exchange to influence policy for action - Biggest challenges! 1. funding: with federal money, have specifics/ approvals to spend that money. 2. collaboration: many organizations want to do their own climate change issues. 3. funding & capacity: short staffed. It takes time to form partnerships. Equity and selecting who to collaborate with, tend to rely on the same organizations & voices. 4. Time: need to be urgent but also consider others' pace. 5. Define what community is relevant to the issue you are working on. 		<ul style="list-style-type: none"> - Learn from old mistakes and failures - Information exchange inspires action after knowledge is shared - Ensure local needs are prioritized - Established continuity (e.g. institutional leadership) - Codify CKE funding/support into NYC law

APPENDIX C: WORKSHOP 3 FEEDBACK ON INDICATORS AND DATA/INFORMATION

Mentimeter Feedback: **Suggested Indicators for Each Pathway (Q2)**

Suggested Indicators for Pathway 1:
Funding: Sustained funding is achieved
<ul style="list-style-type: none">- Number of opportunities identified; number of opportunities applied for; ratio win/loss; ideal amount of funds needed; amount of funds secured; acceptable level of funding in any year and progress toward that goal.- Number of proposals that are awarded- Tracking of how public \$ for climate is being distributed- # new hires in community partner orgs- City budget commitment directly but also through various agency initiatives- Extent to which funding is one time or multiple times- Full participation in City processed and decision-making- Advancement of an organization's efforts- Linking knowledge of climate change to individual behavioral change.- Effective community-based projects, and the organizations or agencies that lead them, are sustained long-term- Number of grants awarded and oversight of geographic distribution- Measures of use of climate knowledge in non-CKE efforts - from usable to used- Projects are funded that reflect community priorities- It's in the Mayor's & Governor's budget annually- Climate is a financial consideration in any planned city investment- Organizations (or collaborative groups of organizations) can afford specific technical expertise needed to participate effectively.- There are Council funded Initiatives in the annual budget- Big challenges are being addressed through funded projects- Funding remains constant or increasing despite budget issues elsewhere- Participation in CKE is not resource limited.- There is dedicated funding allocated to all community districts for ongoing participation- Citation of or linking to the work in different ways/from different works or entities- Number of new relationships that have been developed- Organizations can keep staff on/maintain capacity in between specific planning initiatives, to maintain momentum and continuity.- Amount of dollars that are distributed to community partners on an annual basis- Long-term funding is established - either in form of endowment kind of model or baselined funding from the City- That funding moves from exceptional to normal and ongoing.- "Successful" projects do not end due to lack of funding.- An endowment is created- The City Budget is investing consistently in capacity, much as the state budget routinely invests in land trust capacity through the land trust alliance- Total number of projects we want to fund, types of projects, and budget needs for each category type- Climate and justice considerations mainstreamed into city investment including EDC (which I think right now does not do this at all!)- Multiple, different stakeholders can post and access information- X % of appropriate / qualified grant proposals are funded- Demonstrable network growth through uptake/expansion of climate-related programming in concert with network member priorities- Number of dollars spent per geographic area

Suggested Indicators for Pathway 2:

Accessibility and Translation: Information is accessible to all

- Number of downloads and uses of CKE information and data in city and community plans and investments
- Participation grows!
- Work of the CKE is clearly visible in all neighborhoods and across the city - i.e., on buses and subways and in stations and at bus stops.
- There's a need to measure not only "outputs", i.e., what is created, but also effects. This is really important but needs to be connected to specific goals of the information strategy, and I don't think that's iterated enough yet.
- Multiple communication modes and strategies are employed
- One-stop webpage with relevant information and data in multiple languages
- CKE knowledge affects policy and projects
- Making sure data and formats are translated into multiple languages
- Increased participation of people without college or graduate educational level education.
- Partnerships between members of the exchange on translation activities.
- All digital platforms are utilized to share information in multiple directions
- Multiple, different stakeholders are able to submit and access information
- There are hundreds of languages spoken in NYC so some method of assessing, and providing translation services, for the most widely used languages would be identified and applied during meetings.
- Webpage traffic is monitored for insights on user satisfaction, feedback is implemented to improve interface
- Anyone can call 311 and ask about "climate" and you would get a clear answer and way to participate with the CKE.

Suggested Indicators for Pathway 3:

Networking: Partnerships with diverse stakeholders are established

- Regularly survey partners to determine whether they believe their input is being effectively used.
- Stakeholders are able to build trusting, meaningful relationships
- partnerships continue beyond the tenure of a single worker - that it is between organizations as well as between individuals
- Stakeholders can rely on one another in a meaningful way
- Number of new projects that are initiated by new partnerships
- Number of stakeholders reached per geographic area; ongoing survey data on trust; new engagements per year; mapping of how inter-group connections are growing ...
- Community-based orgs are brought in on the ground floor for planning, goal-setting, agenda-setting and decision-making, and are given access to power.
- New stakeholders are joining over time, instead of the same select group meeting each time with no growth
- Number of new projects initiated by new partnerships
- Community participation at meetings
- Increased willingness to share sensitive data
- There needs to be participation from polluters/industry here. Climate change is not just public practice. It's mostly industry. We don't have participation of the main culprit where some important solutions are located.
- To what extent has trust been established or grown among partners?
- Increased new lines of communication
- Network growth through demonstrable integration of climate-related knowledge in network activities
- Stakeholder maps are developed, utilized and constantly grown and refreshed
- City - community agreements are formulated and approved
- Transparency in the process. Who's engaged? How did they become engaged? Is this always top-down? What about bottom-up? If we want to know this type of information we need to ask about it! (Almost like "how did you hear about us" marketing question.)
- Community awareness of initiatives and their origins
- Number of participants and whether they reflect the city demographics
- Analysis of the network. e.g., see USDA Forest Service STEW-MAP
- Number of new relationships that have been developed
- Are people showing up to participate? If not, why? What are the barriers to participation, which could include trust or lack of impact in past efforts.
- Tracking who is doing what and where (stakeholder mapping) - but we need to have capacity to track this. Who will be doing this
- New collaborative projects across network participants
- Amount of CKE network invitations for participation or support by outside community meetings with a focus on equity
- organization's work extends beyond their own constituents, partners with others
- Participating in different ways of interacting (e.g., meetings, surveys, email correspondence, etc.)
- Who is leading the development of priorities? Is it the community partners, or is it the government agencies?
- Ask specifically about whether folks feel the hoped-for multi-directional flow of information is happening
- Are all schools participating?

Suggested Indicators for Pathway 4:

Elevating: Multi-way exchanges that elevate diverse knowledge and account for power dynamics are established

- There needs to be participation from polluters/industry here. Climate change is not just public practice. It's mostly industry. We don't have participation of the main culprit where some important solutions are located.
- Communities are capable of doing a greater share of the work.
- Track specific examples where community input meaningfully re-shaped resilience planning.
- Number of community-led activities integrating climate knowledge and number of community-led contributions to climate knowledge
- Plans are designed, at the outset, to be locally adaptable to respond to community visions, needs, etc.
- Are these initiatives showing up in public school curricula? Teachers are often a great way to gauge community engagement
- Number of new voices in the conversation
- Opportunities occur to check in to see how stakeholders are feeling over time
- Community perspectives are up front in various types of works
- City community agreements implemented
- Gov, NGO, responsive in new ways to the community.
- Being bold about commitment to racial justice principles as part of the empowerment
- Who is in charge of setting the agenda? Is there true partnership?
- City-Community agreements around specific decisions are created and approved
- Having clear frameworks and formats to track qualitative data - again, back to capacity. The program will need the capacity to track this
- Do people regularly express that they are feeling heard?
- Empowering means focusing on those with less power- are we elevating community groups that represent our "disadvantaged" communities? Are they present, vocal and satisfied with their engagement (survey?)

Suggested Indicators for Pathway 5:

Other: Brave spaces for listening & learning are fostered

- Number of participants and quality of engagement
- Number of new stories shared
- Recurrence of participation. Are people coming back, joining multiple exchanges?
- Mediums are available for stakeholders to express private/anonymous feedback and suggestions (e.g. suggestion box, anonymous surveys)
- (If/when in person), hosting meetings in a variety of communities, to ensure convenience for diverse participants. Host Listening sessions so people's concerns can be heard.
- Measuring participation numbers, and continuity - is there a representation of all age ranges and cultures
- Discussions and feedback mechanisms (maybe not surveys) of partners and participants but comments
- Participant survey results -- that directly ask about whether "Brave" or safe spaces have been created
- Survey responses of participants
- Are there a diverse array of voices that speak up? Are there alternative viewpoints raised, or does it feel like only consensus views are welcome?
- Train city officials to do better on engagement and then survey them on their experiences in this regard.
- Different modes of contribution are available, including with anonymity
- Communication methods/ processes are those which prioritize community communicative practices
- Facilitated discussions
- People feel empowered to participate, there is a large presence of a wide group of people
- Workshop propagation -- do communities take what they benefit from in CKE and make new spaces for people in their own neighborhoods?
- Length of engagement by individuals -- how much are people dropping off -- if they are dropping off a lot they may not be finding a safe space
- Are we going to the places where people are comfortable and talking to people? Community spaces...libraries, parks etc.
- Community-led fun activities that integrate climate knowledge exchange
- Something about Cultural Competence and External Facilitation
- Has participation moved from gov, or researcher led down to greater grassroots participation. Or have the conversations effectively dis-aggregated into smaller engagements that then feed into the larger body of knowledge exchange.

Mentimeter Feedback: **Existing Data/Information** (Q3)

- Flood photos
- Columbia Climate School - Resilient Coastal Communities Project - is collecting data from ten environmental and climate justice groups as to their experiences in coastal resilience planning.
- NYSERDA Climate Impact Assessment includes community knowledge
- Here's a new project <https://www.atkinson.cornell.edu/award/community-driven-air-quality-advocacy-in-manhattan-chinatown-edf/>
- Community Science from NOAA HeatWatch
- EPA, NOAA, NASA
- FloodFactor - First Street, also new Wildfire
- Here's another new effort <https://news.cornell.edu/stories/2022/01/action-research-collaborative-aiming-results-now>
- School programs identified on last call
- Links to the city's library system -- maybe even a partnership with them! -- for finding data and information.
- EPA Brownfields Tracking / Environmental Toxins
- RiSC program (www.riscnyc.org) re community survey in Coney Island on climate knowledge, impacts and access to resources, and www.cretf.org survey on teaching of climate change in K-12 schools in NYC
- Resilience services provided by natural and nature-based solutions (SRIJB, HEP, NAC, NY Sea Grant, NYC Parks, NYS DOS, etc.) Riverkeeper and others collect data on shoreline debris doing their clean ups
- Educational Institutions, city agencies, and nonprofits
- Social impacts of flooding -- peer reviewed and a white paper
- Water Quality especially in terms of pathogens
- 311 data on flood and other issues
- The upcoming VIA (funded research) will be
- How about a blog on how to use data or examples of data usage. And code.
- Where is qualitative data and information kept and summarized?
- Compound impacts of flooding and legacy toxins
- Lots of community data on street trees and street tree health
- MyClimateStory - Bethany Wiggin at Penn
- Data on environmental stewardship - USDA Forest Service
- STEW-MAP Effort
- Health Indicators related to climate via NYS county reporting
- Or a partnership with high schools on how to use this data?
- HUGE gap on local perspectives, attitudes, concerns, etc. related to environmental assets, hazards, and resilience. (Could inform relevant policies and plans that resonate locally)
- Flood watch flooding data (SRIJB and NY Sea Grant)
- Open NYC! We are working to collect data on flooded basements and street flooding both over time and in concentrated areas
- Collecting information about community members' knowledge about climate change, current & future climate impacts, access to resources. Qualitative data about student/youth climate anxiety and strategies for empowerment, as well as living shorelines
- USCRT case study tracking
- DCP collects data on budget needs, which was used indirectly in year 1, but it would be great to dig further into that data
- Community monitoring of air quality
- GIS Data on the urban forest - both remotely sensed (e.g., tree canopy & tree canopy change) and field data like the Street Tree Censuses (NYC Parks)
- Academic Institutions... more are making their data open and online.
- NYC Planning data on resilience, flood vulnerability
- EPA has an equipment loan program for a variety of air and water quality parameters
- Understanding community health and its underlying weaknesses and where more attention needs to be paid to addressing those issues.
- How can remodeling the public realm aid in mitigating climate change impacts
- An understanding of where different organizations overlap in community project work

Mentimeter Feedback: **Data/Information Opportunities for the CKE (Q4)**

- Community awareness of personal/neighborhood risks
- Community coping strategies already in place and gaps as compared to risks
- Project and policy impacts on communities
- Knowledge of basement apartment occupancies and increased exposures
- Identify all locally developed plans that could help inform government planning
- Huge gap in local perceptions, perspectives, and attitudes about environmental factors (e.g., assets like trees and green roofs) and resilience in ways that could inform robust, locally adapted policy that resonates with local folks
- Institutional owner investments in climate change in their planned investments
- Supportive guidance/ resource sharing on developing local emergency preparedness plans
- Incentive programs to improve climate readiness at local and individual family levels
- Range of communication tools and their efficacies for extended storytelling - like a comic
- Range of school programs including climate change
- Data usage guidelines for particular applications (e.g., at the scale of a community or for a particular thematic issue.)
- There is a lot that can be done to gather voices from individuals who may not respond to large scale surveys.
- Range of NYSERDA and other programs for hazard mitigation for property owners
- What are existing programs federal all the way down to local that feed into this work and how does this work fit in
- Extent of stormwater and coastal flooding/data that goes to maintenance of shorelines and stormwater management systems
- Faith-based organizations who have ongoing programs related to climate
- Degree to which climate issues are part of community-based activities or discussions
- Clarity on how private real estate - one of the main drivers of NYC economy - is to work with the public sector within CKE
- Staff capacity at different community and EJ/CJ groups
- Existing resiliency projects - where are they (transparent database), what function are they serving and for whom, info about community input in and support for project(s), if that exists, and \$\$ allocated to each.
- Assessment of ongoing city initiatives - there is so much well-intentioned work going on, how can we evaluate its impact?
- Commercial owners' approach to dealing with climate change in their planned investments
- CKE can act as an advisory service and connector. to get information out- maybe like a search engine and then data on process/decision-making, clarifying city processes and can elevate community plans and ideas -directory of community projects
- Key neighborhood asset mapping and degree of risks to those assets / keystone activities
- Ecological health of green infrastructure/living shorelines
- Identifying places where people are accessing waterways during heat waves

nyc.gov/resiliency