



Milestone 1: Initiate

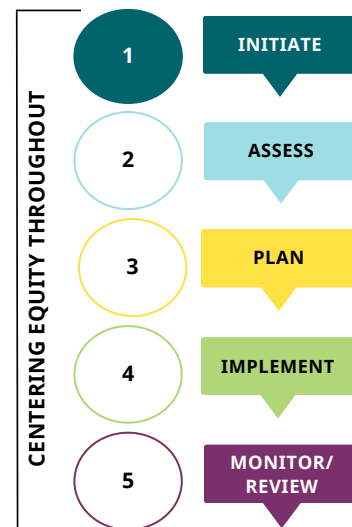
Kick-start your adaptation process

Overview

"Countries and communities need to develop adaptation solutions and implement actions to respond to current and future climate change impacts."

- United Nations Framework Convention on Climate Change

The first milestone gives local governments the tools to begin planning for adaptation. Centering the process in equity from the start can help ensure that adaptation actions will benefit all members of the community.



Equity Considerations

- **Co-create** community
- Acknowledge **history** of racism and injustice
- Plan for equitable **community engagement** specific to your community

✓ Checklist

- ☐ Establish your purpose
- ☐ Engage stakeholders and build your climate adaptation team
- ☐ Understand historical context
- ☐ Strategize for community engagement and communication
- ☐ Establish a vision
- ☐ Integrate climate adaptation with existing plans and actions
- ☐ Commit and show leadership

Key definitions:

Purpose: The underlying cause or "why" driving action.

Vision: Inspiring call to action that paints a picture of the future of your community, informed by the community members.

Goal: Stepping stones taken to achieve a vision.

Additional Resources for Milestone 1

- During public engagement, meet your community or stakeholders where they are. The Yale Program on Climate Change Communication's **quiz** and **climate opinion maps** help determine your community or stakeholder's perception of climate change.
- The **Task Force for Climate-Related Financial Disclosures** provides guidance on the types of information that companies should disclose to appropriately assess and price climate-related risks.
- Refence NOAA's **Centering Equity** for equity considerations in each Milestone.

For more information

Read [Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments](#)

Contact your ICLEI Technical Advisor or email iclei-usa@iclei.org

Adaptation in Climate Planning and Implementation

Milestone 1: Initiate

Case Study: Mayor Bhalla Commits to Climate Adaptation While Showcasing Community Co-Benefits.

HOBOKEN, NJ



Mayor Ravi S. Bhalla of Hoboken, NJ has been instrumental in solidifying Hoboken's commitment to climate action. Mayor Bhalla officially adopted Hoboken's Climate Action Plan in 2019 through an Executive Order, committing the City to achieving net-zero energy by 2030 and carbon neutrality by 2050. In addition, Mayor Bhalla has overseen multiple initiatives, including replacing 17 City fleet vehicles with hybrid and electric vehicles, expanding the City's residential composting drop-off programs, and banning single-use plastic bags and styrofoam containers with an ordinance in 2020.

Mayor Bhalla has also established himself as a leader in building community resilience. Since taking office, Mayor Bhalla has overseen the creation of three resiliency parks that mitigate harmful flooding while providing valuable green space to city residents.

Northwest Resiliency Park, the newest addition, includes athletic fields, playgrounds, gardens, a pavilion, a stage, lawn and small forested areas, restrooms, seasonal amenities for an ice rink or farmers market, and spaces inspired by histories and landscapes of the City. Resilient design elements include shaded and sheltered meeting spaces, solar energy production and use, gardens that promote biodiversity, and flood mitigation and water conservation systems. The City is currently designing its fourth resiliency park at 800 Monroe St. "Few cities have any resiliency parks, this will be our fourth to combat flooding that regularly impacts residents of West Hoboken," said Mayor Bhalla. "I thank the residents who have provided valuable input into the latest designs, which will be incorporated into the park's amenities."



For more information

Read [*Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments*](#)

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Milestone 2: Assess

Understand your community's unique risks and vulnerabilities.

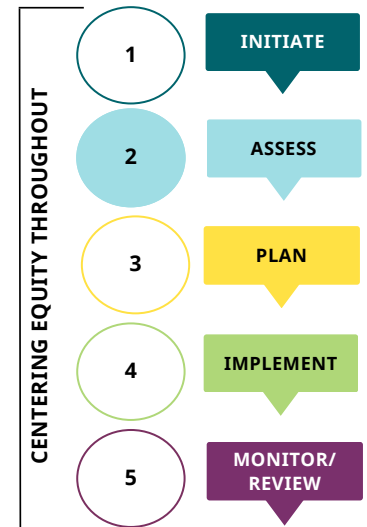
Overview

"Iterative risk management emphasizes that the process of anticipating and responding to climate change does not constitute a single set of judgments at any point in time; rather, it is an ongoing cycle of assessment, action, reassessment, learning, and response."

- The Fourth National Climate Assessment,
Chapter 28: Reducing Risk Through Adaptation Actions

Research is a crucial step to establish your baseline knowledge about the future that your community faces in this changing world, and how your community might be vulnerable to or benefit from those changes.

This research should set you up with the information you need to make informed decisions and choose the appropriate adaptation actions later.



Equity Considerations

- Analyze sources for **bias**
- Vulnerable populations are at **higher risk**

✓ Checklist

- ☐ Initiate your research
- ☐ Record findings
- ☐ Refine impacts and identify community systems
- ☐ Establish criteria and rules for assessing risk and vulnerability
- ☐ Perform a climate risk and vulnerability assessment

Key definitions:

Vulnerability: The propensity or predisposition to be adversely affected by hazards. Includes sensitivity, exposure, and adaptive capacity.

Risk: The potential for adverse consequences of a climate-related hazard. Risk is commonly assessed with the equation:

$$\text{Risk} = \frac{\text{Hazard}}{\text{Probability}} \times \text{Magnitude of impact}$$

Additional Resources for Milestone 2

- EcoAdapt's **Rapid Vulnerability & Adaptation Tool (RVAT)** is a free resource that coaches cities, counties, and other regional planning authorities through evaluating risks and vulnerabilities and identifying adaptation strategies.
- Federal Emergency Management Agency's (FEMA) **National Risk Index** mapping tool represents natural hazard risk as an index using metrics of expected annual loss, social vulnerability, and community resilience.

For more information

Read [Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments](#)

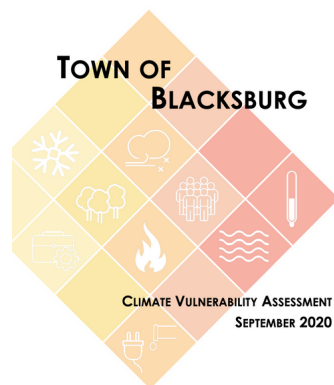
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Adaptation in Climate Planning and Implementation

Milestone 2: Assess

Case Studies: Risk and Vulnerability Assessments within City Plans

BLACKSBURG, VA; PITTSBURGH, PA; AND THE CHICAGO REGION, IL



The **Town of Blacksburg Climate Vulnerability Assessment** took a comprehensive approach to analyzing hotter summers, warmer winters, and changing precipitation patterns as the main climate-related threats to the town. For each threat, the team compiled data, identified vulnerable populations and systems, defined metrics, prioritized risk areas, and recommended strategies for adaptation and resilience. Check out this exemplary plan to review their methods and recommendations, clear and digestible infographics, approach to equity, communication strategy, and data sources.

Resilient Pittsburgh identifies current conditions, existing shocks and stressors, and existing or future risks and vulnerabilities throughout the City. The top shocks include climate change and extreme weather events, infrastructure failure, hazardous materials (HAZMAT) incidents, and economic collapse. The top stressors include economic and racial inequity, aging infrastructure, aging infrastructure, and lack of affordable housing. Stakeholder and community engagement were key to the research to gather input on shocks and stressors and to align community priorities with the City. These conversations emphasized issues of equity and access, concerns of the physical and natural infrastructure, and mobility, transportation, and affordable housing. Check out this plan to see how the Pittsburgh Resilience Team broke down the shocks and stressors as a first step in a phased approach to developing a resilience strategy.



The **Climate Action Plan for the Chicago Region** emphasized stakeholder and community perception while assessing vulnerability and risks. The team held a series of webinars for stakeholder engagement and conducted further research on climate related risks and vulnerabilities. Then 28 stakeholders reviewed relevant climate science and were surveyed on their opinions of potential impact and probability of impact for the top hazards. The participants placed a dot on a graph indicating their opinion of the impact and probability of each hazard to clearly visualize stakeholder perception. Check out this plan to learn how community and stakeholder input drove action that supports persistent, equitable climate adaptation in the region.

For more information

Read [*Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments*](#)

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Milestone 3: Plan

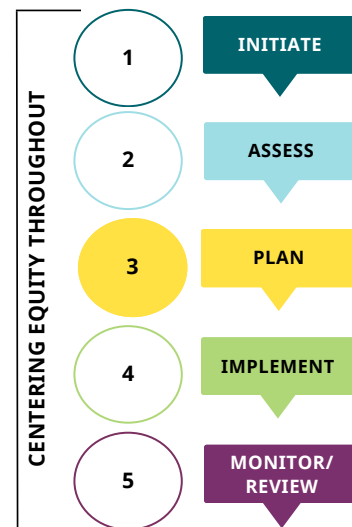
Draft a Climate Adaptation Plan.

Overview

"While the unavoidable costs may be the primary drivers for action, the transformational opportunities and myriad community benefits that we can create provide deep motivation to continue this work."

- American Society of Adaptation Professionals *Ready-to-Fund Resilience Toolkit*

Create a plan to adapt to climate impacts based on your knowledge of vulnerability and risk. Work toward a transformational plan that supports a vibrant, equitable, and resilient community while avoiding "fixes" that maintain problematic conditions.



Equity Considerations

- Equitable considerations for **community goals**
- Selecting **equitable actions**

✓ Checklist

- ☐ Set your adaptation goals and objectives
- ☐ Identify, select, and prioritize adaptation actions
- ☐ Select indicators and metrics
- ☐ Establish a schedule
- ☐ Examine financing and budgeting
- ☐ Draft your climate adaptation plan
- ☐ Finalize your climate adaptation plan

Key definitions:

Indicators: An attribute or characteristic that suggests the status (e.g., effectiveness, progress, success) of a particular element of adaptation.

Metrics: A variable that can be measured or tracked that represents the indicator.

Additional Resources for Milestone 3

- The U.S. Department of Housing and Urban Development's (HUD) **Community Resilience Toolkit** has a comprehensive list of resilience actions that considers planning, buildings and infrastructure, environment, and people, and includes case studies and funding.
- The **Adaptation Actions Table**, created by EcoAdapt and the Commission for Environmental Cooperation, contains a list of climate adaptation actions.
- The National Oceanic and Atmospheric Administration's (NOAA) **Resilience Metrics Toolkit** gives comprehensive information, tools, and resources to appropriately and successfully use indicators and metrics in your adaptation process.

For more information

Read [*Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments*](#)

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Adaptation in Climate Planning and Implementation

Milestone 3: Plan

Climate Adaptation Plan: Key Components



01

Acknowledgements

Thank you to stakeholders and key players



02

Mayor/Council Statement

Statement of intent and commitment



03

Executive Summary

Succinct summary of the highlights of the plan



04

Glossary

Definitions accessible to the general public



05

Introduction

Define the setting and demographics



06

Community Engagement

Describe actions taken to involve your community with development of the Plan, and strategies to involve the community during implementation



07

Background and Context

Provide a broad view of climate change and adaptation in the context of your community. Why is this important?



08

Impacts & Issues

Describe the main vulnerabilities, risks, and concerns for your community based on your Vulnerability and Risk Assessments



09

Vision Statement

Provide a call to action with vision of the future of the community



10

Goals & Objectives

List the goals and objectives of your Climate Adaptation Plan



11

Actions

Describe adaptation actions, including indicators and metrics. Prioritize actions and include a schedule for implementation, monitoring, and evaluation



12

Additional Information

References

For more information

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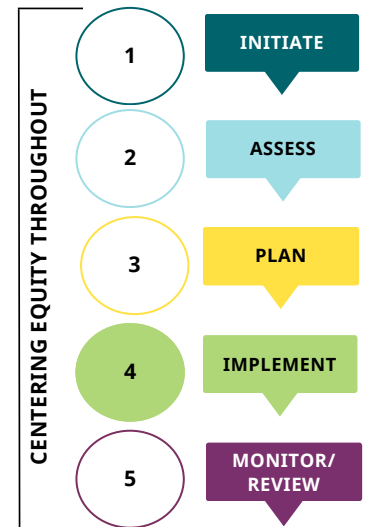


Milestone 4: Implement

Put your Climate Adaptation Plan into action.

Overview

Successful implementation efforts will include centering equity, finding innovative financing opportunities, and coordinating actions with other departments in your organization. Implementation will require an iterative approach to ensure your actions align with the current needs of your community. It is important to consider lessons learned from prior implementation efforts, and evaluate prioritization if community values have shifted since your plan was written. Ultimately, this milestone will help build a more sustainable, resilient, and equitable community for all.



Equity Considerations

- **Communicate** the plan with the community
- **Equity-central approach** to bidding and procurement
- **Co-deliver** projects with your community

✓ Checklist

- ☐ Communicate the plan
- ☐ Mainstream and integrate implementation with other initiatives
- ☐ Identify and pursue funding and financing opportunities
- ☐ Use data-driven implementation tools

Key Concepts:

Mainstream implementation with other government initiatives by using existing decision-making frameworks and funding sources to execute adaptation projects. This can help get buy-in from important stakeholders and use government resources more efficiently.

Pilot-scale demonstration projects can help you understand strengths and weaknesses of the strategy, identify lessons learned, improve cost estimates, and evaluate outcomes.

Additional Resources for Milestone 4

- ICLEI USA's **Spectrum of Community Implementation Readiness Assessment Tool** can help local governments understand their existing agency and capacity to determine if they should start with foundational (smaller) projects or if they are ready for transformative (larger) projects.
- The **Ready-to-Fund Resilience Guide** from NOAA and **Toolkit** from the American Society of Adaptation Professionals lay out characteristics of projects that are considered "ready-to-fund" to help governments secure funding for climate adaptation.

For more information

Read [Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments](#)

Contact your ICLEI Technical Advisor or email iclei-usa@iclei.org

Adaptation in Climate Planning and Implementation

Milestone 4: Implement

Case Study: Green City, Clean Waters Initiative and PowerCorpsPHL Co-Deliver Quantifiable Benefits with Green Stormwater Infrastructure (GSI) Projects

PHILADELPHIA, PA

The City of Philadelphia launched their 25-year stormwater management plan, called **Green City, Clean Waters (GCCW)**, in 2011 to address the pollution from combined sewer overflows. The program boldly called for a green stormwater infrastructure (GSI) focused approach, in addition to significant traditional infrastructure upgrades, to maximize environmental, economic, and social benefits while reducing overflows.



Source: [City of Philadelphia](#)

Complementary to this plan, the City of Philadelphia and the Philadelphia Water Department are partnering with a local organization called PowerCorpsPHL to train local, underserved people aged 18 to 30 in green infrastructure jobs. The program simultaneously invests in the development of a green workforce, while giving local residents, many of whom were formerly incarcerated, the opportunity to learn valuable professional skills, all while delivering projects that improve the sustainability and resilience of the City. Some of the successes of PowerCorpsPHL include:

- Over 90% of graduates move into career-track employment.
- The program sees a 4% recidivism rate, compared to 45% for the city overall.
- 40% of the program's budget goes to direct benefits for participants, such as stipends, transportation, training, and certifications.
- Approximately 850 people have participated in the programs to date.
- Program participants have planted over 10,000 trees and treated over 6,000 acres of land.



Source: [Philadelphia Citizen](#)

Based on the success of PowerCorpsPHL, the organization has started offering technical assistance to other cities who are looking to build similar workforce development programs but who may face different place-based challenges.

For more information

Read [*Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments*](#)

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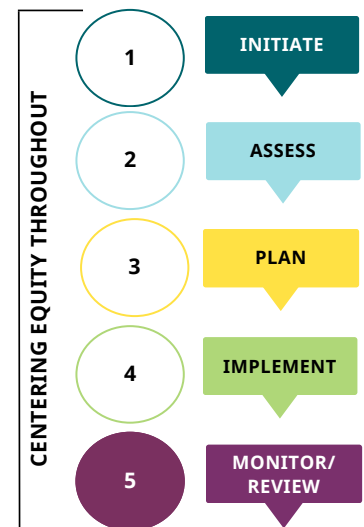


Milestone 5: Monitor/Review

Evaluate the effectiveness of your adaptation actions and readjust as needed.

Overview

Monitor the effectiveness of adaptation actions using indicators and metrics. Evaluate the data to inform next steps. The frequency of monitoring and evaluation will depend on the adaptation action and identified indicators and metrics. Accountability in monitoring and review is key. Community members should be involved in monitoring, evaluation, and updating the climate adaptation plan, if an update is needed. Clear indicators, metrics, and evaluation of equity should be considered in climate adaptation.



Equity Considerations

- Formalize **evaluation and monitoring**
- Track distribution of **funding and investments**
- Embed **planners** in the community
- Use **local** technologies and **shared data** collection systems
- Promote **intergenerational** engagement

☑ Checklist

- ☐ Evaluate your progress
- ☐ Assess new information
- ☐ Update your climate adaptation plan
- ☐ Communicate accomplishments

Update the Plan:

- **Annually**, report progress on adaptation actions to internal and external stakeholders.
- **Every 3 years**, revisit and update the hazards that pose risk to your community, and reconsider focal community systems and assets.
- **Every 5-10 years**, update your Climate Adaptation Plan to account for your community's latest social, environmental, and economic conditions.

Additional Resources for Milestone 5

- The Colorado Resiliency Office's **Community Resilience Assessments & Actions Guide**, has tools and actions for measuring and managing resilience. The **Printable Tracking Sheet** can help track baseline and monitoring data for indicators and metrics to evaluate how resilience conditions have changed over time.
- ICLEI Global's **Unlocking the Power of Youth** checklist provides guidance on engaging youth to promote intergenerational engagement.

For more information

Read [*Adaptation in Climate Planning and Implementation: Recommendations for U.S. Local Governments*](#)

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Adaptation in Climate Planning and Implementation

Milestone 5: Monitor/Review

Questions to Help Track Progress and Effectiveness

FROM CHANGING CLIMATE, CHANGING COMMUNITIES

Progress: <i>Are implementation activities proceeding in line with the schedule in your adaptation plan?</i>	Effectiveness: <i>Are implementation activities changing the adaptive capacity of community systems? Are the actions producing the intended outcomes?</i>
<ul style="list-style-type: none"> How many adaptation actions have been initiated by various departments? How many departments/staff have been involved in implementing adaptation actions? How have you engaged stakeholders in the development and implementation of your adaptation action plan? Are community partnerships in place to enable robust decision making with regard to adaptation planning? To what extent have you increased the general and technical capacity of your community to prepare for climate change impacts? How is climate information being considered in decision making processes within your community? How much support is there among your government, your community, and stakeholders to prepare for climate change impacts? How have drivers or constraints changed? Are there new opportunities available which might aid the implementation of your community's actions now and in the future? 	<ul style="list-style-type: none"> Refer to the specific indicators established and reassess your baseline. How have the conditions in your community changed? How effectively is your community's technical capacity being used to evaluate risk and vulnerability? How effective have the measures been in achieving your community's vision and goals? Are there any formal mechanisms in place that "mainstream" or otherwise facilitate climate change adaptation planning? If not, what has prevented this from happening? How has awareness about climate change and its projected impacts on your community increased?

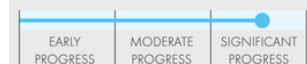
Case Study: Annual Progress Reporting

TALLAHASSEE, FL

The City of Tallahassee created an ambitious **Climate Resilience Plan** in 2019 to address underlying stresses (including job, food, and housing insecurity) and shocks (including flooding, extreme temperatures, and significant storms) that their community faces. The City aims to initiate or complete each initial action laid out in the Plan within 5 years since adoption to align with the timeline of the 2024 Strategic Plan. The City publishes an Annual Progress Report to document actions taken toward the goals and strategies outlined in the Plan. The Annual Progress Report includes a progress bar to visually communicate the phase of progress (early, moderate, or significant) of each strategy. The Annual Progress Report is an example of easily accessible documentation that holds the City accountable to their community for making progress on resilience and sticking to the Plan's timeline.

STRATEGIES

Strategy 1.1: Prioritize human services that address root causes of public health and safety risks.



Strategy 1.2: Create places and spaces that foster community safety.



Strategy 1.3: Build capacity for households and neighborhoods to be safe and self-sufficient.



Strategy 1.4: Strengthen the capacity of the public and private sector to recover quickly from shocks.



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