

Lessons Learned: Creating the Chicago Climate Action Plan

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Contents

Introduction	3
Summary of Lessons Learned from the Chicago Climate Action Planning Process	5
Figure 1. Chicago Checklist for Climate Action Planning	5
Figure 2. Co-Benefits of Climate Action	6
Figure 3. Intersection of Climate Mitigation and Adaptation	6
Figure 4. Products of the Chicago Climate Action Planning Process and	
What Might be Used by Other Cities	9
The Chicago Climate Action Planning Process with Observations	14
Figure 5. Timeline	14
A. Research Phase	15
Figure 6. Original Organizational Chart for the Chicago Climate Action Plan	16
Figure 7. Members of the Research Advisory Committee	17
Figure 8. Members of the Chicago Climate Task Force	19
Figure 9. Oliver Wyman Process for Determining the Municipal Costs	
Figure 10. Chicago Climate Communications Proposed Activities, 2008	21
Figure 11. Members of the Chicago Climate Communications Committee	21
B. Planning Phase	26
Figure 13. Members of the Climate Action Finance Committee	27
Figure 14. Members of the Green Ribbon Committee	35
Figure 15. Chicago Climate Implementation Organizational Structure	
	 Figure 1. Chicago Checklist for Climate Action Planning Figure 2. Co-Benefits of Climate Action Figure 3. Intersection of Climate Mitigation and Adaptation Figure 4. Products of the Chicago Climate Action Planning Process and What Might be Used by Other Cities The Chicago Climate Action Planning Process with Observations Figure 5. Timeline

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Chicago school children learn about solar panels.

I. Introduction

n November 2006, the City of Chicago formed the Chicago Climate Task Force to develop a climate action plan. The City already had taken a variety of steps to reduce greenhouse gas emissions, but wanted to develop a more comprehensive plan. The new elements of this planning process were that (1) the Chicago Climate Action Plan would be a plan for all of Chicago, not just city government, (2) it would address both reducing heat-trapping gas emissions (mitigation) **and** preparing for unavoidable climate change (adaptation), and (3) it would be grounded in the science for projecting regional climate change impacts and accounting for greenhouse gas emissions. This more ambitious plan would require broader input and involvement from institutions, businesses, and communities throughout Chicago than in the past.

The Department of Environment (DOE), which planned the initiative, plugged into other initiatives across the nation to learn about how to approach comprehensive climate change, including the Clinton Climate Initiative, ICLEI, Center for Clean Air Policy's Urban Leaders' Initiative, and US Conference of Mayors. DOE staff also played an active role on the State of Illinois' Climate Change Advisory Group to ensure Chicago and Illinois would have integrated plans.

Creating the Chicago Climate Action Plan was a complex endeavor. It was challenging to bring the pieces together, given the incomplete knowledge base about climate and emissions analysis, conflicting

agendas and perspectives, and dozens of key stakeholders whose support was needed for the plan to be implemented. The purpose of this report is to document the broad process the City of Chicago adopted to create the Chicago Climate Action Plan and ensure its implementation. DOE benefitted from the documentation and guidance of New York City, Seattle, Toronto, London, and other cities; the City of Chicago would like to add to this knowledge base. The work products of the Chicago Climate Action planning process are listed on page 9 in **Figure 3**.

Every city has a unique set of stakeholders, resources, and processes in place to tackle global climate change. In Chicago, key factors that drove the Chicago Climate Action Planning process were Mayor Richard M. Daley's leadership to make Chicago the greenest city in the nation, the desire of DOE to comprehensively address adaptation and mitigation, the expertise of the nonprofit community in research and strategy related to climate action, the excellence of local university research centers, the expertise of the Climate Task Force, the support from unions and the business community for action to reduce building and other emissions, and the willingness of local foundations to fund a thoughtful climate planning process. A critical factor was the partnership created between the City of Chicago and the Global Philanthropy Partnership, a local nonprofit partner.

This report, which ends at the time of the public release of the Chicago Climate Action Plan on September 19, 2008, has three parts. The first summarizes key lessons learned; the second provides a timeline and observations; and the third contains the appendices mentioned throughout the document.



Mayor Richard M. Daley unveils of the Chicago Climate Action Plan on September 18, 2008.

Figure 1. Chicago Checklist for Climate Action Planning

- ✔ Create a staff and organizational structure to carry out work and manage funds
- ✓ Find a nonprofit partner
- ✓ Engage a group of funding partners
- ✓ Create a climate planning task force
- ✓ Create a research advisory committee and research plan
- ✔ Perform or gather research on climate change impacts on the region and priorities for adaptation
- ✓ Analyze baseline GHG emissions
- ✔ Create a process for engaging municipal departments and sister agencies
- ✔ Create a process for engaging local civic and nonprofit leaders
- ✔ Assess and summarize existing City initiatives, resources and capacities
- ✓ Inventory best practices from other cities
- ✓ Collect ideas for emissions reductions and adaptation from the task force, departments, and civic and nonprofit leaders
- ✓ Analyze emissions reductions options, including size of potential reductions, cost-effectiveness, feasibility, and other benefits
- ✔ Vet and prioritize climate mitigation and adaptation options with all stakeholders
- ✔ Choose overall goals for emissions reductions and actions to achieve them
- Develop implementation plans, structures, and partnerships for the highest priority actions (and a timeline for the rest)
- ✓ Establish performance monitoring tools
- ✔ Develop and implement an on-going communications strategy
- ✓ Launch climate action plan
- ✔ Continue on-going planning, monitoring, and reassessment

II. Summary of Lessons Learned from the Chicago Climate Action Planning Process

fter the September 2008 release of the Chicago Climate Action Plan, some of the champions of the plan stepped back to reflect on lessons learned to share with other cities. They agreed on the following 21 good practices and lessons from Chicago.

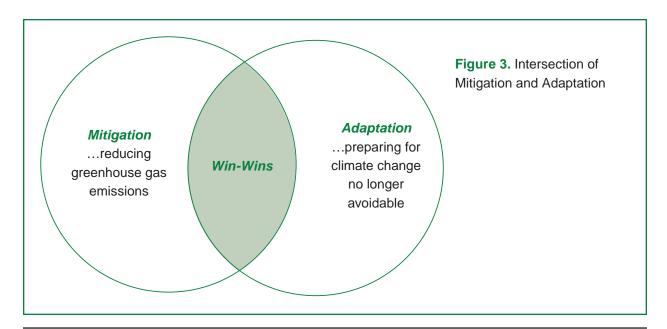
Climate Action Planning Is A Means to A Common Vision for Future Sustainability

The Chicago Climate Action Plan is a comprehensive sustainability plan that can inspire public participation, allow city departments to see how their existing "green" activities fit into a broader agenda, and provide a roadmap for what businesses and individuals can do. The Plan focuses most on how action will sustain a high quality of life for the people of Chicago by improving public health and the resilience of natural areas; lowering energy costs and creating jobs in emerging high technology sectors; increasing the comfort and efficiency of buildings, as well as the reliability of energy services; and broadening transportation choices, including higher quality transit and better access to services in greener neighborhoods. It describes how the City will protect its people from climate changes that are no longer avoidable, such as hotter summers, more heat waves and more severe storms. Many of the actions solve multiple problems and build on the success of one another. Last, but not least, the Plan offers a way to quantify, track, and publicly share progress.

Figure 2. Co-Benefits of Climate Action							
	Co-Benefits						
Strategy	Reduced energy costs	Jobs	Economic develop- ment	Improved air quality and health	Water quality	More Appealing Communities	A More Resilient City
Energy efficient buildings	~	~	~	~	~	~	~
Clean & renew- able energy sources		~	~	V			~
Improved trans- portation options	~	~	~	~		~	~
Reduced waste & industry pollution	~	~	~	~	~	~	~
Adaptation to climate change	~	~	~	~	~	~	~

Mitigation and Adaptation Belong in the Same Plan

Mitigation (reducing greenhouse gas emissions) and adaptation (preparing for climate changes no longer avoidable) overlap and win-win opportunities surface from developing both plans together. Keeping rain-water on site helps reduce flooding (adaptation) and reduces the need for pumping water, which saves energy (mitigation). Trees can ameliorate the urban heat island effect (adaptation) and provide passive cooling, which saves energy (mitigation). Having both mitigation and adaptation in the same plan also makes it easier to ensure that mitigation actions improve resiliency and adaptation actions are climate neutral or reduce emissions. For example, vastly increasing inefficient air conditioning in heat waves would increase greenhouse gas emissions. DOE created a figure to show the overlap (**Figure 3**).



Strong Support From the Mayor and Mayor's Office Paves the Way

Strong support from the Mayor for climate action and outreach by senior city leaders about the importance of the initiative helped bring departments, sister agencies, and community leaders to the table. It was essential to have a champion in the Mayor's office to shepherd completion of the plan.

Support From Government, Civic, and Business Leaders Fuels Action

Early support from the environmental community, key business leaders, foundations, research organization, and others propelled the plan to completion.

A Commissioner of the Department of Environment or Similarly Situated Champion Must Move Climate Planning Ahead

Sadhu Johnston was Commissioner of the Department of Environment (DOE) when the planning process began. He knew Chicago was already doing a great deal to address climate change. At the same time, Chicago did not have a comprehensive framework for action. He was a high level champion with visionary leadership and was willing to ask big questions. He had the assistance of many DOE staff members whose work already aligned with climate action. When Johnston moved to the Mayor's Office as Chief Environmental Officer and Suzanne Malec-McKenna became Commissioner, she played the same role.

Dedicated City Staff is Essential

To undertake an effort with the scope of the Chicago Climate Action Plan, a large city must make a serious commitment to staffing. Chicago needed the equivalent of two full time people to own the process, including a high-level project manager. The best combination may be three part time people, including the project manager, an internal process manager to oversee research and commit-



City of Chicago champions of the Chicago Climate Action Plan: Sadhu Johnston, Chief Environmental Officer, Office of the Mayor; Julia Parzen, Global Philanthropy Partnership advisor to the City; Karen Hobbs, First Deputy Commissioner, Department of Environment; and Suzanne Malec-McKenna, Commissioner, Department of Environment.

tees/task forces, and a communications director for external relations (only modest time at first for summits, but growing to half time for business, government, and community outreach). Karen Hobbs, First Deputy Commissioner, DOE, played the overall project management role in Chicago. Joyce Coffee led adaptation efforts and assisted on all aspects of the work. While staff members had broad relationships within city government and in the civic and business communities, it was very useful to have an outside person facilitating the community processes. When DOE staff turnover occurred, it was challenging, but didn't slow the process because DOE had a strategic nonprofit partner *(see next lesson)*. DOE would also have liked to have an additional full-time staff person to assist other departments by compiling data, providing context, and brainstorming actions.

A Strategic Nonprofit Partner Can Help Keep the Process Moving

A collaboration with the Global Philanthropy Partnership (GPP) added strategic and technical expertise and access to business and professional partners to the planning process. It helped to pull City departments out of a municipal focus and think about action for all of Chicago, including every business and resident. Adele Simmons, GPP president and former president of the John D. and Catherine T. MacArthur Foundation, co-chaired the Chicago Climate Task Force. She also helped the city to plug into an extended network of community leaders. Through GPP, Julia Parzen provided staff support for the climate planning process. She staffed committees, crafted work plans, recruited and managed consultants, and filled gaps when City staff was diverted elsewhere. GPP also helped to organize grant support for the initiative, with a quicker turnaround than the City could achieve alone. This meant that GPP could quickly hire top-notch consultants to work on the plan.

Solid Research Helps Leaders Choose Credible 2020 and 2050 Goals and Actions

Research enabled Chicago to understand its sources of emissions and where it could get the biggest bang for the buck in terms of emissions reductions, but it did more than that:

- It helped participants in the process to understand the challenges for Chicago of climate change.
- Research revealed how Chicago will experience climate change and key adaptation challenges.

•



Mayor Daley talks with Don Wuebbles, member of the IPCC.

- It showed that many aggressive actions would be necessary to achieve Chicago's 2020 goal.
- It provided a credible basis to justify Chicago's goals and actions.
- Reliance on researchers with national reputations added legitimacy to the research.
- It continues to inform implementation and performance measurement.

It is important to note that Chicago had to make many choices about methodology for measuring the emissions reduction potential of actions. While it was useful to have impact analysis that was specific for Chicago, this may not be essential for every city. Cities can take advantage of existing research on climate impacts for their part of the country, as well as Chicago's and other cities' guides to how to adapt to climate change. All of Chicago's research can be found at **www.chicagoclimateaction.org**.

Dedicated Funds Are Needed To Support Research and Planning and, Later, Implementation

To undertake an effort of the scope of the Chicago Climate Plan required funds for planning and research, as well as implementation. The Chicago process used more than \$1.5 million in philanthropic support for planning and research. Other cities can take advantage of this work, but will at least need funds to analyze their emissions baseline and reduction potential for various options. Funds also are needed for communications and engagement. **Figure 4** summarizes the funded work products of the Chicago process, which are available at **www.chicagoclimateaction.org** under the heading Research & Reports.

Figure 4.

Products of the Chicago Climate Action Planning Process and Potential Use to Other Cities

Product	Cost	Source	Potential Use to Other Cities
Chicago Area Impacts of Climate Change (Professors Don Wuebbles and Katharine Hayhoe)	\$225,000	Lloyd A. Fry Foundation, Joyce Foundation, and Grand Victoria Foundation	Results apply to cities throughout the Chicago Metropolitan Area
Economic Costs of Action and Inaction for City Government (Oliver Wyman)	\$800,000 pro bono	Oliver Wyman	Methodology applicable to other cities (only summary available)
Chicago and Chicago Metro Area Baseline Emissions and Emissions Growth Projections (Center for Neighborhood Technology)	\$150,000	Lloyd A. Fry Foundation, Joyce Foundation, and Grand Victoria Foundation	Methodology applicable to other cities
Chicago's Best Opportunities to Reduce Emissions (Center for Neighborhood Technology and Delta Institute)	\$125,000	Lloyd A. Fry Foundation, Joyce Foundation, and Grand Victoria Foundation	Methodology applicable to other cities
Preparing for Climate Change in Chicago (MWH)	\$50,000; \$40,000 pro bono	City of Chicago Department of Environment	Adaptation process appli- cable to other cities; results apply to cities throughout Chicago Metropolitan Area
Energy Efficiency Retrofits Implementation Strategy (Center for Neighborhood Technology, Delta Institute)	\$207,000, plus Katzenbach pro bono	Lloyd A. Fry Foundation, Nathan Cummings Foundation, and Katzenbach	Methodology and strategy applicable to other cities (in process)
Green Jobs Implementation Strategy (Center for Urban Economic Development at University of Illinois in Chicago, Center on Wisconsin Strategy, Green for All, and Chicago Jobs Council)	\$175,000	Lloyd A. Fry Foundation and Nathan Cummings Foundation, and Chicago Department of the Environment, Mayor's Office of Work-force Development, and Department of Planning and Development	Methodology and strategy applicable to other cities (in process)

Figure 4. Products of the Chicago Climate Action Planning Process and Potential Use to Other Cities (cont.)				
Product	Cost	Source	Potential Use to Other Cities	
Renewable Energy Implementation Strategy (Environmental Law and Policy Center of the Midwest, Chicago Manufacturing Center, and Chicago Manufacturing Renaissance Council)	\$275,000	Northern Illinois Energy Project (NIEP)	Methodology and strategy applicable to other cities (in process)	
Communications Planning and Implementation (Edelman, Jasculca Terman, MK Communications, and DOE)	\$400,000	The Legacy Fund, Chicago Community Trust, Illinois Department of Commerce and Economic Opportunity, and Chicago Department of Environment	Strategy applicable to other cities (in process, available upon request)	
Staff Support for the Green Ribbon Committee and Annual Public Meeting (Salcon Consulting)	\$67,000	The Legacy Fund	Strategy applicable to other cities (in process)	
Chicago Carbon Offsets Fund (Delta Institute)	\$200,000	The Legacy Fund	Approach applicable to other cities (in process)	
Global Philanthropy Partnership Advisor First Six Months, Including Facilitating Chicago Climate Task Force (Julia Parzen)	\$75,000	Clinton Climate Initiative, the Chicago Department of Environment	Partnership with a non- profit civic leader applicable to other cities	

Foundations Are Important Partners

Foundations have a key role to play in climate action as thought leaders, conveners, sources of contacts and ideas, and funders of quality research and community process. Foundation grant funding ensures that climate planning doesn't have to compete for scarce budget dollars. Foundation leadership promotes an inclusive process. The City of Chicago developed an on-going collaboration with local and national foundations.

A Task Force of Local Leaders Adds Enormous Value and Legitimacy

A task force of 19 leaders in the business, civic, environmental, foundation, and other nonprofit communities contributed expertise and demonstrated that climate action requires participation of all parts of a community. The members of the Task Force, invited by the Mayor, already supported climate action. The City engaged people opposed to climate action individually.

It Is Critical To Be Clear Up Front About Whose Climate Plan It Is

Initially, DOE intended to have the Chicago Climate Task Force issue the climate plan, but halfway through the process it was decided that the Plan should be released to the public as the City's plan. In this way, the plan could provide a blueprint for action that had the full support of city government and accountability for implementation. It would have been better to have decided this up front and, once decided, it would have been better to immediately map out all the City decision makers who needed input.

City Commissioners and Sister Agencies Need Their Own Process to Provide Input

Commissioners and sister agencies needed early briefings on the research and planning process and on-going meetings of staff champions to hammer out goals and strategies. Initially, not enough time was spent getting commissioners fully on board. In hindsight, it might have been better to convene commissioners sooner and more often.

Later in the process, a Green Steering Committee of commissioners was convened, which continues to plan a central role. Over the course of seven months commissioners learned about the climate research, explored how climate change matters to their work, and, through their chosen staff members, developed collaborative action plans for addressing impacts. The departments also created departmental mitigation action plans aligned with the Chicago Plan. The meetings of commissioners empowered staff champions to move forward. It helped to show departments how what they already were doing contributed to emissions reduction or adaptation and how climate action could help them advance their objectives. For example, green roofs reduce emissions (by reducing the need for active cooling) and aid adaptation (cooling and managing storm water). Departments could see how the Climate Plan could help to advance efforts to improve city infrastructure and services.

Frequent Climate Summits Keep Stakeholders Informed of Progress and Provide a Way to Get Input

Creating a climate action plan for a city of 3 million people requires a great deal of buy-in from a variety of stakeholders. DOE and GPP kept an on-going list of key stakeholders and scheduled meetings to stay in touch throughout the planning process. Bringing together 50 to 100 key stakeholders every four or five months made for a much richer process, many additional ideas, higher energy, and an array of collaborations around implementation of the Plan. DOE and GPP also created a public PBWiki web site where stakeholders could post ideas. They also held many smaller meetings. Chicago did not have larger town meetings where neighbors could come out and give their input, but recommends doing so.

A Research Advisory Committee Adds Knowledge and Credibility

National experts brought cutting edge ideas to the table and assurance that the research results would be credible and useful. DOE and GPP also obtained peer review for all of the research with the help of the advisory committee.

Research Needs Continue: It Pays to Have a Research Team to which The City Can Continue to Turn

The City has continued to turn to CNT and other researchers for new or refined analysis and put CNT on retainer through GPP to address questions about the emissions reduction potential of various actions.

Start on Implementation Early in the Process

This is important for many reasons. First, action must start quickly to meet 2012 or 2020 goals for reductions. Second, action planning identifies barriers, which can then be addressed more quickly. Third, showing early progress builds local support and counters skepticism about the seriousness of the climate plan. Fourth, only once implementation plans are in place is it possible to determine the full costs and benefits of action. With big, aggressive goals, getting a quick start with pilot projects provides time to learn and manages expectations. DOE knew that buildings accounted for the vast majority of Chicago's emissions. Therefore, it enthusiastically accepted the Clinton Climate Initiative's offer to develop retrofit programs in Chicago for commercial and multi-family retrofits. These programs were announced before the release of the Chicago Climate Action Plan. The City of Chicago had a handful of policies and programs ready to announce by the time it released the Chicago Climate Action Plan

Have an Aligned Communications Strategy (But Don't Start on It too Early...)

The Chicago Climate Task Force recognized that the climate plan would require broad business and resident engagement and action. It asked DOE to form a communications committee to help with market segmentation, messaging, and outreach plans. With the advice of the committee, the City decided to focus messaging on quality of life benefits and cost savings of action. It crafted small and big programs to challenge and encourage residents and businesses to take action. It moved to leverage existing initiatives, such as Cool Globes and Earth Hour, and integrate climate messaging into festivals and events. It also reached out to dozens of com-



The city took advantage of the energy and enthusiasm of a variety of related initiatives, such as Cool Globes and Earth Hour.

munity organizations to enlist them as outreach partners. In hindsight, it would have been better to wait to form the communications committee until the climate research was done and priorities were chosen. Then the communications committee members could have focused much more on how to engage the public in programs.

Build on Existing Initiatives

Part of the Chicago climate planning process was an inventory of existing initiatives and assessment of the potential to build on them. Building on successes saved time, leveraged existing resources, and added to the base of support for the Plan. For example, Chicago already was planting thousands of trees: now it is planting them strategically to ameliorate the urban heat island. The Plan also built on and replaces the City's Environmental Action Agendas (EAA). The actions in the EAAs are captured in the City's Performance Management System, as the steps in the Climate Action Plan soon will be too. In this way, the City doesn't have to juggle these plans.

Successful Climate Action Depends Upon Long-Term Public-Private Partnerships

The Chicago Climate Action Plan is a plan for every Chicagoan. Without broad action, the goals won't be

achieved. The City cultivated partners for each of the five strategies. Nurturing these partnerships is a central focus of implementation.

The Way to Ensure Success is to Track Progress and Continually Reassess

The City of Chicago has a plan for tracking the progress of each action in the Chicago Climate Action Plan and overall Chicago greenhouse gas emission reductions. This performance management system will ensure that the City can adjust its implementation plans as problems arise and stay on course. The Mayor charged a Green Ribbon committee with overseeing and assisting progress and reporting to the public each year.

Even With Careful Planning, It is Hard to Move Forward the Enormous Initiatives That Are Needed to Address Climate Change

It took longer than expected to develop and fully vet the plan and to develop a massive retrofit initiative, among other initiatives. Funds had to be raised for research and pilots. Briefings had to be fit into busy schedules. Decision makers needed to do their own due diligence before deciding goals were achievable. It was challenging keeping stakeholders engaged throughout the long process. Passion, persistence, and flexibility were essential to keep the process moving forward in the face of challenges. The City of Chicago staff set priorities, spread tasks over time, and leveraged the skills and networks of partners.

III. The Chicago Climate Action Planning Process with Observations

B

ecause of funding from the Clinton Climate Initiative, Chicago was able to document the three phases—research, planning, and implementation—of the Chicago Climate Action plan process. Figure 4 summarizes the timeline and provides page numbers for further information.

Date	Component	Page
A. Research Phase		15
October 2006	Global Philanthropy Partnership, Nonprofit Partner, Recruitment	15
	Staffing and Leadership Team Formation	16
November 2006	Research Advisory Committee Formation	
	Research Planning and Implementation	17
December 2006	Chicago Climate Task Force Meeting One	18
January 2007	Research Advisory Committee Recommendations	18
February 2007	Additions to the Research Plan	20
	Communications Committee Formation	21
	Partnership Building with Foundations	22
	Chicago Climate Task Force Meeting Two	22
	City Operations Working Group: Input on Research	23
	Chicago Sector Groups: Input on Research	23
	Chicago Climate Summit One	23
March 2007	Chicago Climate Task Force Meeting Three	24
	City Operations Working Group: Input on Plan	24
	Mitigations Research Results: CNT	24
April 2007	Economic Risk Research Results: Oliver Wyman	25
June 2007	Chicago Climate Task Force Meeting Four	26
	Chicago Climate Summit Two	26
B. Planning Phase		26
July 2007	Chicago Climate Task Force Meeting Five	26
	Finance Committee Formation	27
August 2007	Selection of Outside Writer	27
	Chicago Climate Task Force Meeting Six	28
	Chicago-wide Sector Groups: Input on Implementation	28
September and November 2007	Chicago Climate Summits Three and Four	28
October 2007	Climate Action Jobs Steering Committee	29
	Chicago Climate Task Force Meeting Seven	29
November 2007	Chicago-wide Foundation Briefing and Follow Up	29

Figure 5. Timeline (co	nt.)	
Date	Component	Page
November 2007	Public Announcement of the Partnership with the Clinton Climate Initiative	30
September 2007 through June 2008	Vetting the Draft Plan and Securing Partners	31
February 2008	Building Trades Summit	31
	Green Steering Committee: Implementation Planning	31
	Chicago Climate Task Force Final Meeting	32
C. Implementation Pha	ase	32
February 2008 through the present	Implementation Plan Development and Execution	32
April 2008	Communications Plan Implementation	34
	Green Ribbon Committee Formation	34
May 2008	Publication of Research Reports	35
June 2008	Completion of the Climate Plan	36
	Regional Partnership Development	37
September 2008	Launch	37

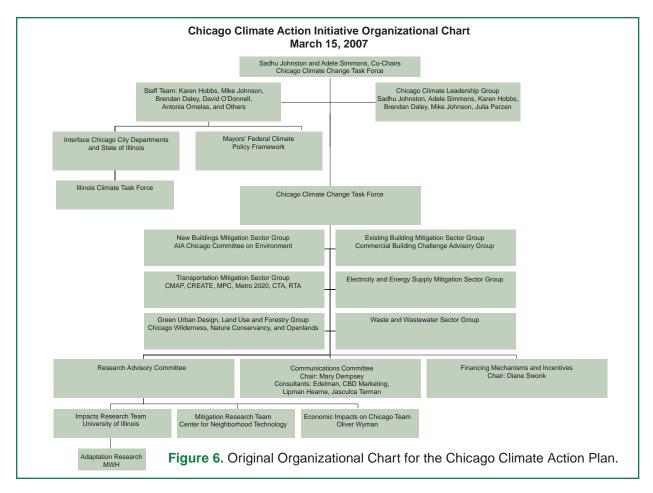
A. Research Phase

October 2006

Component: Global Philanthropy Partnership, Nonprofit Partner

Action: Sadhu Johnston, Commissioner of the Department of Environment (DOE), recognized that Chicago was already doing a great deal to address climate change, but it lacked a comprehensive framework for action. Johnston, who became Chicago's Chief Environmental Officer halfway through the process, and Karen Hobbs, First Deputy Commissioner of DOE, enlisted the assistance of Adele Simmons and Julia Parzen to help guide the initiative. It asked Simmons, president of Global Philanthropy Partnership (GPP), a 501(c)(3) organization, and the former President of the John D. and Catherine T. MacArthur Foundation, to co-chair a Chicago Climate Task Force. It asked Parzen, of JP Consulting, to be an external project manager for the project at GPP and closely work with a DOE climate plan project manager. In addition to providing leadership and project management, GPP prepared grant proposals and received grants to support the Chicago Climate Action Plan. The Clinton Foundation funded GPP for the first six months of this work at \$75,000; DOE provided funding after the first six months using an inter-agency grant agreement.

Observations: Challenges and Opportunities The partnership with GPP added value for the City of Chicago in terms of strategic and technical expertise, access to resources and civic and business leaders, staff support, and help to organize grant support for the initiative. It also was valuable because DOE's agreement with GPP made it possible for GPP to quickly hire top-notch consultants to work on aspects of the plan. According to Chicago's Chief Environmental Officer, Adele Simmons' and Julia Parzen's experience and contacts were critical to the Plan's success.



Component: Staffing and Leadership Team

Action: The Department of Environment assigned a senior staff member to oversee this initiative and a more junior manager to make day-to-day decisions. Over time, many more DOE staff members took on pieces of the initiative. A Chicago Climate Action Leadership Group began weekly to monthly meetings to guide the planning process. The team included senior DOE and GPP staff. This team developed an infrastructure to manage the multi-faceted climate initiative. (Figure 6) The sector Groups are described on page 23.

Observations: Challenges and Opportunities The continuous involvement of a small leadership group helped to keep this complex initiative on track and allowed for quick problem solving.

November 2006

Component: Research Advisory Committee

Action: The Climate Action Leadership Team wanted the plan to be grounded in science. The Team formed a Research Advisory Committee of five national leaders on climate change and greenhouse gas emissions research to provide advice and credibility.

The Research Advisory Committee met by phone in December 2006, January, March, April, July and September 2007. It provided expert comments to the research teams and Task Force. For example, it provided advice on the base year and forecast

year for Chicago emissions. (Figure 7) Observations: Challenges and Opportunities National experts were able to bring cutting edge ideas to the table and assurance that the research results would be credible and useful. The City helped ensure that its research and process was well coordinated with a parallel State of Illinois process by including State representatives on the Chicago Climate Task Force and including the World Resources Institute—which was conducting parallel research for the State process—on the

Research Advisory Committee.

Figure 7. Members of the Research Advisory Committee

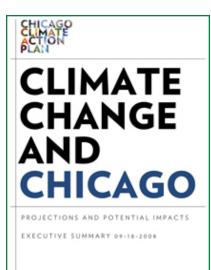
- John Larsen, World Resources Institute Nancy Cole, Union of Concerned Scientists
- Russ Fostiak, Fostiak Engineering, LLC William Moomaw, Tufts Institute of the Environment
- Susanne Moser, Institute for the Study of Society and Environment, National Center for Atmospheric Research

November 2006

Component: Research Plan (See Appendix 1. Research Plan, Feb. 17, 2007) **Action:** The Climate Action Leadership Team drafted a Research Plan for review by the Task Force and Research Advisory Committee. It proposed research to: (1) identify the likely climate change impacts on the Chicago area and ways to minimize them and (2) develop a baseline and set of mitigation options for Chicago. The Leadership Team chose local researchers with national credentials to do the work.

The first class climate impacts research team leaders—Don Wuebbles (University of Illinois) and Katharine Hayhoe (Texas Tech)—had done similar research for the Northeast, California, and the Great Lakes Region. The total costs of the climate change projections (including regional downscaling) and the sectoral impact analysis was \$225,000. If the research team leaders had not been able to piggyback existing

research, the cost would have been closer to \$1 million (see



www.chicagoclimateaction.org).

The Chicago baseline and mitigation options research was led by the Center for Neighborhood Technology (CNT), based in Chicago. CNT was already developing an inventory protocol for cities for the Clinton Climate Initiative. Later in the process, Delta Institute also contributed to this research (see www.chicagoclimateaction.org).

GPP began to reach out to local foundations to find one or more funders for the research. With the first grant in hand, the research teams were able to begin work in March 2007. The research teams required a large amount of data from the City, which in turn required substantial staff time. The cost to produce the Chicago and metropolitan area baseline and projections was \$150,000. The cost to produce the analysis of mitigation options for Chicago and the metropolitan region was \$125,000.

Observations: Challenges and Opportunities Organizations that had supported similar research, such as the Union of Concerned Scientists (UCS), provided the extensive guidance that made it possible to craft the research plan. Because the climate researchers projected climate change impacts under both a lower and higher emissions scenario, as UCS suggested, Chicago leaders were able to see the big difference global action to reduce emissions could make. This comparison became part of the story of why Chicago needed to act.

The research team leaders, Wuebbles and Hayhoe, were able to accomplish an immense amount on a small budget by involving 24 leading researchers who applied Wuebbles and Hayhoe's findings on climate changes to their current research on Great Lakes water, ecosystems, etc.

Because the CNT team calculated potential emissions reductions for a large number of alternative actions using Chicago specific data, and also provided data on cost-effectiveness, barriers, and other benefits, the Task Force was able to have highly informed discussions about the best mix of actions for Chicago.

The in-depth research would not have been possible without foundation support. The Lloyd A. Fry Foundation, which reached out to DOE with a quick special opportunities grant, the Grand Victoria Foundation, and the Joyce Foundation funded the research. GPP, the city's nonprofit partner, applied for and received grants for the research, plan implementation, and communications and engagement.

December 2006

Component: Chicago Climate Task Force Meeting One (See Appendix 2. Task Force meeting notes, Dec. 21, 2006)

Action: The Chicago Climate Task Force included 19 local business, government, and civic leaders with expertise in reducing carbon emissions and adapting to climate change. Its charge was to recommend to the Mayor a GHG emission reductions goal and steps for Chicago to prepare for unavoidable climate change; what strategies would allow Chicago to achieve these goals; and how to engage all of Chicago to take the steps needed to achieve the goals.

At the first meeting, members reviewed the goals for the Chicago Climate Action Plan and the research approach, and brainstormed resources and partners. DOE and GPP jointly staffed the Task Force. (**Figure 8**, next page.)

Observations: Challenges and Opportunities Task force members were informed supporters of climate action. Their input made the plan practical: they had a broad knowledge base about what was happening across the nation and what could be done in Chicago.

An early contribution of the Task Force was to increase emphasis on communications and engagement. Another early contribution of the Task Force was to ask that the research be completed not only for the City of Chicago, but also for the sixcounty metropolitan region.

The Chicago Task Force would have benefited from having more financing experts among its members. While many climate programs have a high return on investment, they require innovative financing strategies. The co-chairs established a finance committee.

January 2007

Component: Research Advisory Committee Recommendations (See Appendix

3. Advisory Committee meeting notes, Jan. 9, 2007)

Action: The Research Advisory Committee provided recommendations to the Task Force on:

Figure 8. Members of the Chicago Climate Task Force Sadhu A. Johnston, Mayor's office, co-chair and Economic Opportunity Adele Simmons, Chicago Metropolis 2020 and Howard Learner, Environmental Law and Policy Global Philanthropy Partnership, co-chair Center Ellen Alberding, The Joyce Foundation Kevin Lynch, International Brotherhood of Michael Berkshire, Chicago Department of Electrical Workers, Local 134 Planning and Development Suzanne Malec-McKenna, Chicago Scott Bernstein, Center for Neighborhood Department of the Environment Technology Jim Mann, Illinois Clean Energy Community Timothy H. Brown, Delta Institute Foundation Mary Gade, U.S. Environmental Protection Ronald E. Meissen, Baxter International, Inc. Agency Charles L. Owen, Institute of Design, Illinois Bill Gerwing, BP America Institute of Technology Karen Greenbaum, Nixon Peabody, LLP Raymond T. Pierrehumbert, Department of the **Geoffrey Hewings**, Regional Economics Geophysical Sciences, University of Chicago Applications Laboratory, University of Illinois Patrick Sarb, Allstate Administration and Real at Urbana-Champaign Estate Karen Hobbs, Chicago Department of the Doug Scott, Illinois Environmental Protection Environment Agency Helen Howes, Exelon Rebecca Stanfield, Environment Illinois Richard Lanyon, Metropolitan Water Donald Wuebbles, School of Earth, Society, **Reclamation District of Greater Chicago** and Environment, University of Illinois at Mary Laraia, Aspen Institute Urbana-Champaign Jack Lavin, Illinois Department of Commerce Julia Parzen, Task Force Facilitator

- 1. Basis for Determining the Chicago Emissions Reduction Goal
- 2. Mitigation Strategy Screening Criteria
- 3. Decision Criteria for Climate Impacts to Study
- 4. Economic Analysis Priorities

For example, the considerations for choosing a Chicago goal for emissions reduction were:

- What goals has Chicago already adopted?
- What are Chicago's current and projected emissions?
- What is feasible for Chicago?
- What goals have other regions adopted?
- What is needed to avoid the worst impacts of climate change?

Based upon these factors, the Research Advisory Committee recommended that Chicago adopt both a near term (2020) and longer term (2050) emissions reduction goal. The near term goal would spur immediate action and the long term goal would align with growing global agreement about the emissions reductions needed by 2050 to avoid devastating global impacts (an 80 percent reduction below 1990 levels). **Observations: Challenges and Opportunities** The Research Advisory Committee was correct that a near term goal would spur immediate action, while the longer term goal would add support for sufficient global action to avoid devastating global impacts. It became clear at this research advisory committee meeting that a piece of research was missing: an assessment of the vulnerability of Chicago systems to the projected climate changes. The Leadership Team proceeded to create an additional process to work with City departments to understand their vulnerability, adaptive capacity, and adaptation costs.

February 2007

Component: Additions to the Research Plan

Action: Two new research teams were added.

Through the efforts of GPP, Oliver Wyman (OW) agreed to provide a team pro bono to undertake a comprehensive economic risk analysis related to climate change for City of Chicago municipal functions. This analysis was valued at over \$800,000. In addition, GPP hired MWH, one of the three engineering consulting firms that responded to a GPP RFP, to convene city departments and sister agencies to develop priorities for adapting to climate change and specific action plans. DOE paid \$50,000 for this analysis. MWH added about \$40,000 in pro bono work. **Observations: Challenges and Opportunities** The Oliver Wyman economic risk analysis was possible because of the Wuebbles-Hayhoe climate impacts research already underway. As far as we know, Chicago was the first city to complete an economic risk analysis for climate change impacts on municipal functions. The risk

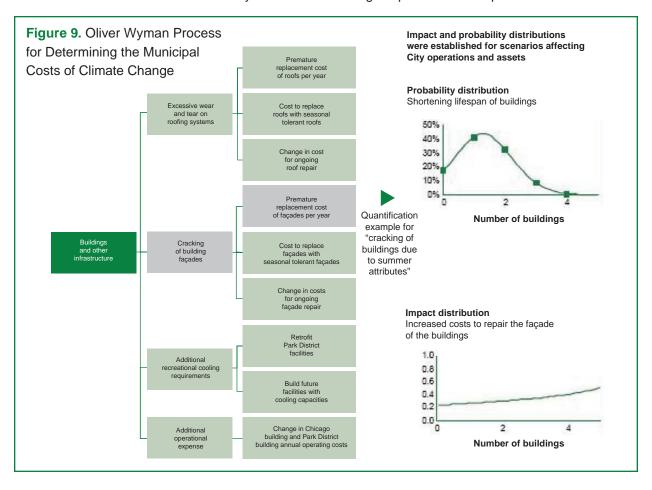


Figure 10. Chicago Climate Communications Proposed Activities, 2008

PUBLIC RELATIONS

Media Relations

Media lunch/workshop education event

Ongoing media outreach

Press conference

Blog outreach/engagement

Partner Event Management and Program Coordination

Mobile Phone Marketing Program

Media Related Materials

CTA interior cards

Bus shelter advertising

City street banners

Signage for speakers, local events, etc.

Marketing collateral

COMMUNITY OUTREACH

Speakers

Robust speakers bureau program

Community meetings/outreach

Roundtable events with key audience groups

Climate-Specific Events and Programs

Class of 2020 Program

Individual, Neighborhood, and Campus Challenge Programs

Workplace/Business Program

Web Site

Vendors to design, program

Ongoing management

Writing and maintain content on site

Monthly email newsletter

Outreach Related Materials

General initiative brochure

Other handouts

Printing Chicago Climate Impact Plan

STAFF AND ADVISORS/MONITORS

Staffing

Outside Project Manager

2 City staff to manage agencies and consultants and provide overall management of communications for the Climate Initiative analysis used the lower and higher emissions scenarios already developed for Chicago, so that it would be possible to look at the difference in costs for Chicago.

Component: Communications Committee

Action: The Co-Chairs formed a Communications Committee of 10 experts on public relations, grassroots organizing, and communications to advise the Task Force on messaging and engagement of the people and businesses of the City of Chicago.

GPP secured a pro bono commitment for public relations services to develop a plan for the release of the Chicago Climate Action Plan and public engagement following the release. GPP and DOE worked with the public relations firm to craft a 1-year communications budget, which came to about \$1.5 million. It was possible to sharply reduce these costs through various partnerships. The PR firm also brought in a pro bono design consultant, CBD, which contributed a variety of design ideas for the Plan and the tagline: *Our City, Our Future*.

In September 2007, GPP wrote several funding proposals to support the communications strategy. Although DOE contributed a part-time staff person and funding, this was not sufficient. The Legacy Fund,

Figure 11. Members of the Chicago Climate Communications Committee

Mary Dempsey, Chicago Public Libraries, chair Wendy Abrams, Cool Globes Clare Butterfield. Faith in Place Fred Carter, Black Oaks Sustainability Project Donna Cicinelli, Chicago Department of Environment Kendal Gladish, Bulletin of the Atomic Scientists Karen Greenbaum, Nixon Peabody, LLP Michael Howard, Eden Place Marilyn Katz, MK Communications Mary Krinock, Museum of Science and Industry Peter Kuntz, Chicago Humanities Festival Larry Merritt, Chicago Department of Environment David Mosena, Museum of Science and Industry Colleen Sarna. Sierra Club

Figure 12. Brainstormin	g Worksheet.
3	
	Wedges Hold the Most Promise for art of the Mitigation Research)
Criteria: 1. Significant CO2 Reduction 2. Cost Effective (No Regret: 3. Minimal additional social 4. Feasible (Legal, Technical 5. Builds on Current Initiativ 6. Potential for Partnerships 7. Catalytic Potential 8. Meets Multiple Goals/Opt	s) or environmental costs , Cultural, Political) /es : and Funding
tigation Wedge for Chicago	How Meets Criteria

Chicago Community Trust, and State of Illinois Department of Commerce and Economic Opportunity (DCEO) provided crucial support for the communications plan, together contributing \$400,000. (Figures 10 and 11, previous page) Observations: Challenges and Opportunities The Communications Committee was helpful in defining the breadth of communications required from broad media to neighborhood engagement.

The Communications Committee's effort to help to create a brand for the Chicago Climate Action Plan struggled because of the need to secure City government approval at many levels.

Another challenge was how to make it clear that the Chicago Climate Action Plan is a plan for all of Chicago and the responsibility of every business, government agency, and individual in Chicago. The committee recommended broad outreach and partnership development to engrain this key idea. As described later, DOE and GPP came up with the idea for the Green Ribbon Committee to ensure that implementation was seen as the responsibility of every Chicagoan.

Component: Foundation Partnership

Action: Throughout the climate initiative, DOE and GPP stayed in touch with local foundation leaders. DOE and GPP invited the foundations to summits and events and participated in funder briefings. In turn, foundations participated in the planning process, made introductions to potential partners, and made grants for research and planning.

Component: Chicago Climate Task Force Meeting Two (See Appendix 4. Task Force meeting notes, Feb. 5, 2007)

Action: At this meeting, CNT presented its first draft emissions inventory for Chicago and the six-county Chicago metropolitan region. The Task Force signed off on the criteria the Research Advisory Committee suggested for choosing target emissions reductions, priority impacts to study, and mitigation options to develop. Members broke into groups to brainstorm actions to reduce greenhouse gas emissions that CNT should research, climate change impacts that it wanted the climate researchers to investigate, and potential adaptation strategies appropriate to Chicago. The Task Force also reviewed the first draft of a communications strategy drafted with the help of Edelman, pro bono PR counsel, and the new communications committee. (Figure 12) **Observations: Challenges and Opportunities** The finding that 70 percent of Chicago's greenhouse gas emissions came from buildings and energy production influenced thinking about emissions reduction strategies to explore. Energy efficient buildings and clean energy action would be particularly important, followed by transportation. An interesting finding was that while transportation accounted for 21 percent of Chicago's emissions, it accounted for 30 percent of the six-county metro area emissions.

Component: City Operations Working Group

Action: DOE's climate project manager formed a City Operations Working Group, which included mid-level staff from most departments and sister agencies, to bring them up to speed on the research agenda and engage them in identifying potential climate threats and opportunities to reduce emissions.

Observations: Challenges and Opportunities It would have been better to have set up a work group and started quarterly meetings with Commissioners earlier in the process, briefing them and involving them in developing action plans. This happened much later when the Green Steering Committee was formed. In hindsight, the climate leaders would have worked with Commissioners early to identify how climate action fit with their existing priorities.

Component: Chicago-wide Sector Groups

Action: As mentioned earlier, the Task Force recognized that success depended upon broad public engagement. DOE formed specific sector groups around anticipated priority sectors for climate action. These sector groups—New Buildings & Developments; Existing Buildings; Energy Supply; Waste, Water and Information Infrastructure; Transportation; and Green Urban Design—included both city personnel and other stakeholders.

Observations: Challenges and Opportunities The Sector Groups provided useful input about emissions reduction actions and the practicalities of implementation. Many participants stayed involved through the shift to plan implementation. Professional facilitation would have been helpful.

Component: Chicago Climate Summit One

Action: About 100 organizations and individuals—mostly from environmental, land use, community, and faith-based organizations, but also some developers, schools, and museums—came together to hear about early research findings, brainstorm ideas for Chicago emissions reductions and adaptation strategies, and make commitments to reach out to their networks about climate change and the Chicago Climate Action Plan. **Observations: Challenges and Opportunities** Participants in the Summit offered dozens of excellent opportunities for joint outreach and public engagement on climate change and Chicago. Bringing everyone together generated energy and enthusiasm. Everyone could see how they fit into the Plan. While nontraditional partners were invited to the summits, few came. It would have been better to meet with key groups individually to bring them into the planning process.

March 2007

Component: Chicago Climate Task Force Meeting Three (See Appendix 5. Task Force meeting notes, March 29, 2007)

Action: The Task Force suggested changes to the research methods and preliminary results for Projected Climate Changes and Rough Emissions Baseline, fleshed out the implications for mitigation options, and reviewed the Economic Analysis Plan and Communications Plan Progress.

Observations: Challenges and Opportunities Task Force members helped to raise the hard questions that would be asked when the City released the Plan to the public, especially about costs, financing, and return on investment.

Component: City Operations Working Group

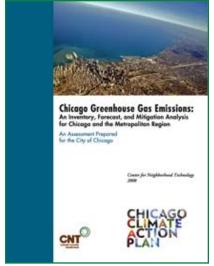
Action: DOE convened the City Operations Working Group again to initiate a discussion about weather-related impacts that departments already have experienced and determine questions departments wanted to answer about the implications of potential future climate impacts.

Observations: Challenges and Opportunities The City Operations Working Group meetings were too few and too short to really explain the implications for the departments. This became clear later in the process when Oliver Wyman, which provided a pro bono economic risk analysis, interviewed individual departments about what costs they might incur in the future due to projected climate changes.

Component: Mitigation Research Results

Action: The Center for Neighborhood Technology (CNT) had staff at all climate plan meetings to collect ideas from the Task Force, Research Advisory Committee, Sector Groups, and Summit participants for ways to reduce Chicago's GHG emissions. CNT prioritized mitigation strategies that:

- 1. Targeted the biggest sources and sectors of greenhouse gas emissions.
- Would most effectively reduce emissions from these sources, today and over time.
- 3. Were within the jurisdiction of the City of Chicago to inspire, regulate, or enact



change.

CNT ended up calculating the Chicago baseline and developed analyses for 33 mitigation actions. Due to the interdependence of the city and suburbs, CNT also performed a six-county regional analysis.

Many complex decisions were required about what to include and how. These decisions are described in the research reports. **Observations: Challenges and Opportunities** Data collection required a great deal of time from many people. Some of the data didn't exist and had to be constructed. Other cities' plans provided invaluable resources, but the science for calculating emissions at a municipal level is still evolving and lots of decisions had to be made about methodology. It was useful to collect detailed utility information early in the process not only to inform the baseline inventory, but also to guide implementation of mitigation strategies. Coordination with other regional actors (the State of Illinois) created valuable synergy. Scientific peer review (the Research Advisory Committee) strengthened the results. It was a challenge that calculations of emissions reduction potential could not simply be added together. Every change in the mix of actions required a recalculation to eliminate double-counting.

The analysis of economic and job impacts also was challenging. DOE and GPP secured help from the University of Illinois Regional Economic Analysis Laboratory to do some rough calculations of economic benefits, but the analysis was of limited value because data on program cost was not complete for many of the actions. However, DOE and GPP were able to extrapolate from studies done at the state level and in other regions to present evidence that most of the strategies would result in significant household savings, especially reducing building energy use and transportation expenses, and have positive net economic and job impacts. It would have been better to commission up front a comprehensive cost and economic analysis for Chicago of both climate change and climate action. Later in the process, the City secured detailed analyses of the cost of inaction for city infrastructure and services and of the job creation potential of the Chicago Plan.

CNT established a way for all of the stakeholders in this project to comment on the research and to suggest mitigation and adaptation ideas on a Wiki. This was an excellent tool to share ideas and progress, although only a small share of stakeholders chose to use it.

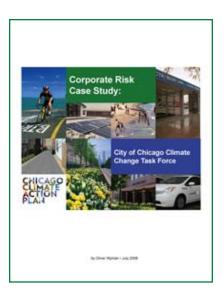
Adaptation and mitigation strategies were complicated to address at the same time, but they are closely entwined and need to be addressed together. DOE and GPP urged all of the researchers to look for intersections and they found them.

April 2007

Component: Economic Risk Research Results: Oliver Wyman

Action: Oliver Wyman (OW) applied standard business risk management analytic tools to its pro bono analysis for City of Chicago departments and sister agencies of adaptation costs for specific types of structures, such as parking lots and institutional buildings, under both high and low emissions scenarios. OW interviewed staff members to understand the impacts of projected climate changes and to develop cost estimates for adapting to these impacts.

Observations: Challenges and Opportunities This analysis was possible because the climate researchers had studied both low and high



emissions scenarios. OW felt that costs were underestimated because departments did not have sufficient time to consider all of the ramifications of projected climate changes.

June 2007

Component: Chicago Climate Task Force Meeting Four (See Appendix 6. Task Force meeting notes, June 1, 2007)

Action: The Task Force agreed to DOE's recommendations and rationale for 2020 and 2050 emissions reductions goals, discussed the implications of findings on climate change impacts, gave feedback on the OW economic analysis, and critiqued and added to a list of emissions reduction actions pulled together by CNT based on ideas from the Task Force, Research Advisory Committee, Sector Groups, and other outreach. Observations: Challenges and Opportunities It helped that a number of mayors, including Mayor Daley, came together around this time to endorse the goal of an 80 percent reduction in emissions below 1990 levels by 2050.

Component: Chicago Climate Summit Two

Action: More than 70 organizations and individuals came to hear about progress of CCAP, review the list of mitigation options under consideration, and provide ideas and commitments for communications and outreach.

Observations: Challenges and Opportunities Partnering on outreach has huge leverage potential. Organizations each have their own networks and communications tools that can be useful in reinforcing messages and advertising programs. In Chicago, dozens of organizations offered to aid outreach and articulated their information and other needs to be able to act.

B. Planning Phase

July 2007

Component: Chicago Climate Task Force Meeting Five (See Appendix 7. Task Force meeting notes, July 25, 2007)

Action: The night before the July Task Force meeting, DOE hosted a "Big Ideas" forum for about 60 people, including the Task Force. A panel of thought leaders, including Amory Lovins, Doug Foy, and David Orr, framed what Chicago could achieve through the Climate Action Plan and commented on CNT's findings about ways to achieve large emissions reductions. LaSalle Bank hosted the dinner and forum.

At the Task Force meeting, the climate researchers shared findings on Chicago climate change impacts. CNT shared recommendations on cost effective actions to meet the proposed Chicago goal for reducing emissions to 25% below 1990 levels by 2020. Breakout groups for Energy Use, Transportation, and "Other" suggested modifications to the proposed climate actions that were accepted by the group. DOE presented early findings on adaptation priorities for Chicago and the Task Force recommended additional steps.

At this meeting, it became clear that (1) many actions would be required to achieve the 2020 goal and (2) many of the actions would have economic benefits and that it would be critical to highlight these benefits.

Observations: Challenges and Opportunities The forum the night before the Task Force meeting, which most Task Force members attended, challenged members to think big and be ambitious. It also challenged the Task Force to focus on implementation.

The research findings made it clear that taking early action could significantly

mitigate longer-term impacts and uncertainties. They also revealed that education would be critical to help people understand that what they do now will really make a difference in the years to come. CNT was able to identify sufficient cost-effective activities to achieve Chicago's proposed emissions reductions goal for 2020 using existing technologies, building on existing Chicago initiatives, and modifying for Chicago some initiatives that were having success in other cities. It was especially helpful to the Task Force to see what levels of deployment were achievable based upon Chicago data. CNT computed the reduction potential for each action. This was hugely helpful in getting buy in and support for a mix of strategies.

Component: Finance Committee (See Appendix 8. Finance Committee meeting notes, July 9, 2007)

Action: Although the payback was fast for many of the actions in the Chicago Climate Action Plan, the up-front costs were also high. DOE and GPP created a finance committee to help develop a strategy to leverage dollars to achieve the goals of the plan. The Finance Committee, which met in July, September, **Figure 13.** Members of the Climate Action Finance Committee.

- Diane Swonk, Mesirow Financial, chair
- Ellen Alberding, The Joyce Foundation
- Timothy H. Brown, Delta Institute Jack Lavin, Illinois Department of Commerce and Economic Opportunity
- Ed Miller, Legacy Fund
- David Narefsky and Lorraine Tyson, Mayer Brown
- Jerry Roper and Michael Mini, Chicagoland Chamber of Commerce
- Paula Crown, Crown Family Funds Richard Sandor, Chicago Climate Exchange
- Paul Volpe, City of Chicago, Mayor's Office
- Joel Freehling, ShoreBank Craig Sieben, Sieben Energy
 - Associates
- Gary Wood, BOMA Foundation

and October 2007, provided input on how to finance retrofits of municipal buildings and how to organize financing from many sources for the massive retrofit program. (**Figure 13**)

Observations: Challenges and Opportunities The vast array of federal and state resources to support building retrofits requires organization and coordination. Return on investment and capital are not the biggest barriers to massive retrofits. It is consumer resistance and unorganized markets. The Finance Committee made it clear that the key step to ensuring that capital would be available for the massive retrofit program would be to create an effective program and demonstrate accountability for results. It would have been better to have formed the finance committee later in the process.

August 2007

Component: Hiring an Outside Writer

Action: The Leadership Team wanted the Chicago Climate Action Plan to be a 12-year roadmap for action for all Chicagoans. Therefore, it needed to be a well-written public document that told the story of why action was important for Chicago and how it would be achieved in a compelling way. DOE and GPP secured grant and city



funds to hire a firm to draft the report.

Observations: Challenges and Opportunities Over nine months, DOE and GPP worked with two different writing teams at Edelman and Lipman Hearne. Dozens of iterations of the report were necessary as the Plan was reviewed by the Task Force, Committees, Sector Groups, City departments and sister agencies, key stakeholders, and the Mayor's Office, which led to frustration and additional expense. A key challenge was trying to do messaging, write the report, and design the report simultaneously.

Component: Chicago Climate Task Force Meeting Six

Action: DOE presented the final actions that would comprise the Chicago Climate Action Plan and next steps for each one. Task Force members provided suggestions for ways to improve implementation. MWH presented preliminary recommendations for adaptation/preparation priorities for Chicago.

The Task Force and City of Chicago also endorsed the creation of a cap and trade program as an overarching goal. The cap and trade program will help to achieve every action in the plan and make it easier to engage every Chicagoan. **Observations: Challenges and Opportunities** The Task Force helped to identify what barriers might be faced—political, economic, and technical --in implementation and suggested ways to address them.

Component: Chicago Sector Groups

Action: DOE brought all of the Sector Groups together again to share the OW findings that the social and economic costs of inaction would be many times greater than the costs of taking action now. DOE also gathered ideas for how to refine and implement the mitigation strategies and identified who wanted to work with DOE on implementation.

Observations: Challenges and Opportunities It took an enormous amount of time to sustain this level of involvement, and still many potential partners and stakeholders were not approached.

The departments, sister agencies, utilities, and energy producers that were involved in or affected by the significant programs in the Chicago Climate Action Plan needed time to analyze and vet the proposed actions. In the end, only one significant change in a program was necessary. The departments suggested many more changes in language and presentation.

September 2007 and November 2007

Component: Chicago Climate Summits Three and Four

Action: The goal of these summits was to keep people informed of the progress of the plan and its implementation and to gather additional feedback. **Observations: Challenges and Opportunities** If a climate plan is to belong to all businesses and residents of a city, many people must be involved in the planning process.

October 2007

Component: Climate Action Jobs Steering Committee (See Appendix 9. Chicago Climate Action Jobs Outlook and Plan)

Action: One of the most persuasive arguments for climate action in Chicago was the high cost of inaction (per OW analysis) and the potential job benefits of action. GPP and DOE together drafted a plan for analyzing job impacts and ensuring that there would be trained workers for the jobs created through implementation of the Chicago Climate Action Plan. With support from multiple City departments (\$55,000), the Lloyd A. Fry Foundation (\$50,000) and the Nathan Cummings Foundation (\$70,000), GPP and DOE hired a team to research job impacts and training needs and hired the Chicago Jobs Council to staff a Climate Action Jobs Steering Committee, which met for the first time in March 2008.

Observations: Challenges and Opportunities The rigorous analysis that guided this entire process was possible because of foundation support.

Chicago climate leaders found that in most cases it is more persuasive to talk about the economic and job benefits of climate action than about the economic and environmental costs avoided by reducing greenhouse gas emissions.

Component: Chicago Climate Task Force Meeting Seven (See Appendix 10. Task Force implementation discussion, Oct. 23, 2007; and Appendix 11. Chicago Climate Credit Program)

Action: This was intended to be the last Task Force meeting before the release of the Chicago Climate Action Plan. Heeding the Task Force's call to focus closely on implementation planning, DOE used most of this meeting to present implementation plans, including DOE staffing; formation of a Green Ribbon Committee representing the people and businesses of Chicago to oversee implementation and share progress with the public; next steps for the buildings, TOD, adaptation, and communications strategies; and for the Chicago Carbon Credit Fund.

From day one, the Commissioner of DOE wanted Chicago to have its own Offset Fund (renamed Carbon Credit Fund), which would aid public education and provide an incremental funding source for Chicago emissions reduction projects. Through support to Delta Institute from the Legacy Fund, the City achieved this goal. The Chicago Carbon Credit Fund will be in operation in late 2009.

November 2007

Component: Citywide Foundation Briefing

Action: Foundations that had already supported the development of the plan invited other Chicago foundations to the table to hear about the plan, implementation steps, and ways that they could make a difference through their current programs. Affordable housing funders could promote energy efficient buildings; ecosystem funders could support green infrastructure for flood management; health funders could advocate for walkable development and reduced emissions from energy; culture and education funders could target climate change topics; economic development funders could support green jobs and development.

Following this briefing, DOE and GPP agreed to host on-going meetings with the current funders of the Chicago Climate Action Plan, including the Legacy Fund, Grand Victoria Foundation, Lloyd A. Fry Foundation, the Joyce Foundation, and the Chicago Community Trust. These funders, in turn, agreed to reach out to other funders as the need for resources to implement the plan surfaced. In addition, GPP wrote a primer for foundations on roles to support cities taking climate action. **Observations: Challenges and Opportunities** Foundation support is extremely valuable. Cities often have program funds, but not research and planning funds. Nonprofits often have the skills to do this research and assist planning, at least in Chicago. Community organization grantees can have an important role in outreach to neighborhoods about climate action. Foundations play important roles as early adopters and thought leaders. They can provide critical guidance on program design

and implementation. And their own actions and support they give grantees to take action can have an enormous impact.

Component: Public Announcement of the Partnership with the Clinton Climate Initiative (See Appendix 12. Clinton Climate Initiative Retrofit Programs)

Action: Based upon CNT's analysis of Chicago's greenhouse gas emissions baseline, DOE knew that buildings accounted for the majority

of Chicago's emissions.



line, DOE knew that buildings The Clinton Climate Initiative's offer to develop programs accounted for the majority for commercial and multi-family retrofits was important.

Therefore, the Clinton Climate Initiative's offer to develop programs in Chicago for commercial and multi-family retrofits was important. Rather than wait for the climate action plan report to be finalized, the City took advantage of the fact that both Mayor Daley and President Clinton were scheduled to speak at the Green Build Conference in November 2007. They announced the launch of two Clinton Climate Initiative programs: one to retrofit commercial buildings and the second to pilot energy service contracting for multi-family affordable housing, both priorities in the Chicago Climate Action Plan. The press conference, to which key leaders and the Task Force came, put a spotlight on implementation.

Observations: Challenges and Opportunities Partnerships with other entities are a hallmark of Chicago's climate action plan. The enormity of the scale of actions makes this leverage essential.

It was disappointing not to be able to release the Plan to the public in November, but it had unintended benefits: DOE and partners spent the next six months refining implementation plans, building additional partnerships and buy-in, and honing the communications plan. This positioned Chicago to be able to announce substantial progress rather than just a plan.

November 2007 through June 2008

Component: Vetting the Draft Chicago Climate Action Plan and Securing Partners

Action: DOE set up one-on-one meetings with all of the departments and sister agencies to obtain additional feedback on the plan and next steps. It took months to collect and respond to all of the feedback on the draft plan.

Observations: Challenges and Opportunities It was important to involve all departments early and repeatedly in plan development at both the Commissioner and staff level and to reserve large blocks of time for vetting the plan.

February 2008

Component: Building Trades Summit

Action: The City of Chicago and the Chicago and Cook County Building and Construction Trades Council began to work together to ensure that the labor community understood and supported the Plan. Together they held a Building Trades Climate Action Summit on February 14, 2008, which was foundation-funded. All of the building trades were represented at the meeting, with more than 80 union and contractor group leaders in attendance. The leadership of the Chicago and Cook County Building Trades Council met following the summit and agreed on concrete next steps for working together on the massive retrofit initiative.

Observations: Challenges and Opportunities To achieve the number of building retrofits in the Chicago Climate Action Plan will require a partnership of building managers and contractors, building trade unions, community organizations, government, financial institutions. Having reached out to the Building Trades and Building Managers early in the development of the Climate Action Plan, it was relatively straightforward to begin work together on plan implementation.



Mayor Daley, Chicago and Cook County Building Trades Council President Tom Villanova, and other council members at the Union Climate Summit. (Photographed by Brooke Collins, provided by the City of Chicago.)

Component: Green Steering Committee

Action: Chicago's Chief Environmental Officer, who previously was the Commissioner of the Department of Environment (DOE), constituted a green steering committee of department and sister agency commissioners to oversee the city government part of implementing the Chicago Climate Action Plan, including developing an annual report card to the Green Ribbon Committee, described below. He asked five Commissioners from the Green Steering Committee to chair adaptation work groups including: extreme heat; extreme precipitation; buildings, infrastructure & equipment;

ecosystems; and leadership, planning & communications. Joyce Coffee of DOE staffed the committees. Working with staff from relevant departments, sister agencies and other stakeholders, these work groups developed 39 basic adaptation work plans, including plans for enhancing the City's existing projects and programs that relate to climate change adaptation. The City is building departmental performance measures into the City's Performance Management System. The work groups wlll continue to meet bi-annually to review performance and update action plans. **Observations: Challenges and Opportunities** The Green Steering Committee was very helpful in ensuring that work at the staff level by each department was supported at the Commissioner level. The process of creating climate change preparation plans helped to integrate climate change challenges and opportunities within the City and sister agencies.

Component: Chicago Climate Task Force Meeting Eight

Action: The Task Force's work was largely done when the Mayor adopted all of the Task Force recommendations for the Chicago Climate Impact Plan. While the Plan was being vetted at all levels of City government, the Task Force was reconvened to hear about implementation progress.

Observations: Challenges and Opportunities One of the biggest challenges of the initiative was the time it took to finalize the Chicago Climate Action Plan and release it to the public. While the extended time period ensured buy-in, it also meant more staff time keeping partners updated and engaged.

C. Implementation Phase

February 2008 through the present

Component: Implementation Plans

Action: While the Chicago Climate Action Plan report was finalized, most attention shifted to implementation planning. The Department of Environment assigned one staff person to be in charge of tracking each strategy in the plan: buildings, clean and renewable energy, transportation, waste and pollution, and adaptation. These DOE staff people coordinated with lead departments and sister agencies. Various departments had the leadership role. For example, the Department of Planning and Development and CTA took the lead on the activities related to transit oriented development (TOD).

Buildings: DOE took the lead role on energy efficiency in buildings with support from GPP. The City immediately began to draft a revised energy conservation code, which passed in November 2008. It also convened energy efficiency and housing experts to develop the strategy for moving forward a massive energy retrofit initiative. GPP hired the Center for Neighborhood Technology to analyze energy intensity for every building in Chicago using utility data sources. GPP also hired Delta Institute to develop a plan for funding the massive retrofits with a goal to identify \$3 billion in resources. Once the research was done, GPP and DOE secured the services of RW Ventures and Katzenbach Partners (pro bono) to flesh out the building retrofit implementation plan.

Green Jobs: GPP hired the Center for Urban Economic Development (CUED) at UIC to develop a jobs and training strategy to support the massive retrofit plan and other parts of the Chicago Climate Action Plan. CUED partnered with the Center on Wisconsin Strategy (COWS) at the University of Wisconsin-Madison and Green for All to produce Chicago's recommended strategy. GPP also secured grants to hire the Chicago Jobs Council to coordinate a multi-stakeholder committee to implement the green jobs strategy. The Fry Foundation (\$150,000) and Cummings Foundation (\$175,000) funded the retrofit and green jobs research.

Renewable Energy: DOE also took the lead on the renewable energy strategy in the Plan. In October 2008, it established a partnership with the Environmental Law and Policy Center for the Midwest, Chicago Manufacturing Center, and Chicago Manufacturing Renaissance Council to develop an implementation plan to achieve the Climate Plan goals for renewable and distributed energy and to ensure that Chicago businesses benefit from the economic development potential.

Observations: Challenges and Opportunities The climate mantle provided a helpful organizing framework for a variety of City activities related to energy production and use, transportation, waste, and pollution, all of which would become more efficient and cleaner energy users under the Chicago Climate Action Plan.

Time spent early on crafting implementation plans and developing financing strategies helped convince stakeholders the Plan was achievable. The City and its partners needed this time to craft complex, multi-stakeholder initiatives.



City residents learn about capturing and reusing rainwater runoff.

April 2008

Component: Communications Plan

Action: As the time of the release of the Chicago Climate Action Plan (CCAP) approached, DOE staff worked with a new pro bono public relations consultant, Jasculca/Terman (JT), whose time was largely paid for by the Illinois Department of Commerce and Economic Opportunity under an existing contract. JT helped DOE to develop a comprehensive communications and engagement strategy including a press conference, media blitz, website launch, and events across the City.

The communications objectives for the first year of implementation of the Chicago Climate Action Plan (CCAP) are to (1) raise awareness about the Plan and (2) translate awareness into specific behavior changes by residents and businesses through their participation in programs such as an \$800 Savings Challenge for individuals and a Green Office Challenge for businesses.

City staff is leveraging existing networks and partnerships to enroll 50,000 people in the \$800 Savings Challenge in 2009 and attract strong participation in the Green Office Challenge. This strategy includes providing financial and material support to key community-based partners prepared to assist outreach; forums for specific sectors with tailored messages; collaboration with existing Chicago Conservation Student Clubs at schools to equip students with \$800 Savings Challenge Kits to install in their homes; and delivering the \$800 Savings Challenge message at City events throughout the year.

The City also hopes to drive at least 100,000 people to the CCAP Website in 2009 and achieve a 15% increase in enrollment in aligned programs. DOE is updating its website to more clearly link people to programs that serve their needs and interests. For example, the website will inform community garden groups about the City's subsidized rain barrel sales (CCAP Adaptation Strategy) and promote the Waste-to-Profit network to industries (CCAP Waste and Pollution Strategy). The vehicles for this strategy include media, social networking websites, advertising at bus stops and grocery stores, media partnerships, E-newsletters/calendar of events, notes in utility bills, inserts into school report cards, and various events. For example, a Spring Cleaning event will emphasize the need to properly dispose of household chemicals and electronics. Power Fridays will reach out to businesses to challenge their employees to power down their monitors before leaving the office for the weekend. Observations: Challenges and Opportunities The launch and release of the CCAP was the first step in a carefully staged long-term plan for engaging the public in significantly reducing Chicago's greenhouse gas emissions. One challenge is deciding how to time announcements of progress in implementing climate actions to build momentum.

Component: Green Ribbon Committee

Action: The Chicago Climate Action Plan is intended to be a plan for all of Chicago. The Mayor charged a Green Ribbon Committee with overseeing and assisting progress of the City, its businesses, and its residents in achieving the goals. The Green Ribbon Committee is helping to establish implementation benchmarks; review implementation progress and find solutions to difficult implementation challenges; and share the progress with the people of the City of Chicago. Individual members also

Figure 14. Members of the Green Ribbon Committee	e
 Sylvia Manning, President, Higher Learning Commission of the North Central Association, <i>co-chair</i> John Tracy, Chief Technology Officer and 	 Paul Roldan, President and CEO, Hispanic Housing Development Corporation Louis Schorsch, President and CEO, Flat Carbon Americas, ArcelorMittal
Senior Vice President, Engineering, Operations &Technology, The Boeing	Adele Simmons , President, Global Philanthropy Partnership
Company, <i>co-chair</i> Ellen Alberding, President, Joyce Foundation Lee Bey, Executive Director, Chicago Central	Sheila Leahy, President, SAL Consulting, Inc., committee facilitator
Area Committee	City of Chicago Liaisons
Stephanie Comer , Manager, Comer Foundation Chris Kennedy , President, Merchandise Mart Properties	Sadhu Johnston, Chief Environmental Officer and Deputy Chief of Staff to the Mayor, City of Chicago
Steve Koch , Vice Chairman and Co-Chair of the Mergers and Acquisitions Group, Credit Suisse	Suzanne Malec McKenna, Commissioner, Department of Environment, City of Chicago Karen Hobbs, First Deputy Commissioner,
 Mary Laraia, Senior Fellow, Aspen Institute John Livingston, Managing Partner, Chicago Office, McKinsey & Co. Carlos Nelson, Executive Director, Greater Auburn Creater Development Corporation 	Department of Environment, City of Chicago Joyce Coffee, Director of Project Development, Policy and Research, Department of Environment, City of Chicago
Auburn-Gresham Development Corporation	Julia Parzen, Advisor to the City of Chicago

are taking a personal leadership role on implementation opportunities where their leadership could make the difference and inviting others to assume similar leadership roles.

The Legacy Fund funded an independent secretariat for the Green Ribbon Committee (\$67,000) for the first year. (Figure 14)

Observations: Challenges and Opportunities The Green Ribbon Committee has an important role in ensuring that the goals in the Chicago Climate Action Plan are achieved. Achieving the goals cannot be the responsibility of city government alone. Every business and individual who lives in Chicago must be collectively responsible for success.

The biggest challenge in preparing for the first Green Ribbon Committee meeting in July was figuring out how to share progress in achieving the goals of the Chicago Climate Action Plan with the Committee. The Plan established emissions reduction goals for each action for 2020 in the Chicago Climate Action Plan. The challenge was how to measure progress in the first few years as programs were put in place. DOE and GPP established process benchmarks for the first year to use for this purpose.

May 2008

Component: Publication of Research Reports

Action: The City decided to publish its research reports both to supplement the Chicago Climate Action Plan, which provides a broad overview, and to give other cities access to what Chicago learned. All of the reports are on the Chicago Climate

Action Website (**www.chicagoclimateaction.org**). GPP helped the City with the editing and design of the reports.

Observations: Challenges and Opportunities Chicago gathered many ideas in late 2006 from other cities. This kind of sharing is extremely helpful. Also, methodologies for analyzing climate change impacts, city emissions baselines, and adaptation priorities continue to evolve. The City of Chicago hopes that its work can help to establish good practices.

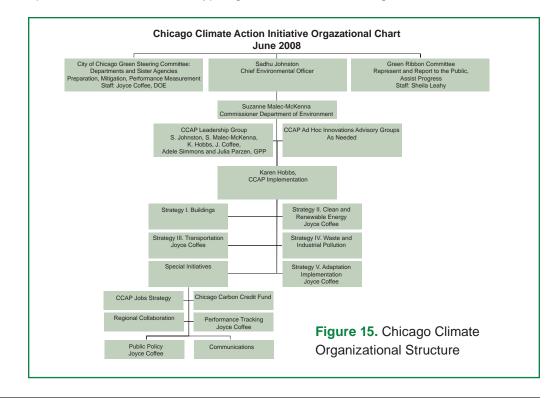
June 2008

Component: Completion of the Chicago Climate Action Plan

Action: The report, following extensive vetting at all levels of City government and outside government was approved and made final. The communications plan was refined, anticipating a late summer release of the report. In the meantime, work on implementation continued in earnest. A new implementation organizational structure was in place. (Figure 15)

The Clinton Climate Initiative prepared to pilot its Chicago multifamily retrofit program with 300 large multi-family housing units while linking up four additional buildings. The Merchandise Mart, part of the commercial building program of CCI, started its energy retrofit. The Chief Environmental Officer led the effort to rewrite the Chicago Conservation Energy Code with the Departments of Buildings and Planning and Development and the Offices of Budget and Legislative Affairs.

Representatives from the Chicago Transit Authority (CTA) and the Departments of Planning and Development, Transportation, and Environment began to implement the Transit Oriented Development (TOD) actions with three pilot projects and a long term system wide station classification project and TOD strategic plan. The TOD strategic plan will include a series of typologies for stations that will guide the scale, nature



and type of development that is desired and feasible at each station. The plan will also compare and contrast different station areas and transit nodes in regard to their development potential.

DPD and CTA also began to develop Chicago's plan for bus rapid transit that focuses on the redevelopment of Chicago's arterial roads using the bus lines as a focus for development, which is expected to increase transit ridership.

Observations: Challenges and Opportunities Knowledge gained from pilot projects will help determine how to proceed with many of the actions.

Progress benchmarks shared with the Green Ribbon Committee and the public will help to ensure that progress and learning continues.

Component: Regional Partnership Development

Action: A key aspect of the Chicago Climate Action Plan is scaling up to the regional level. The Department of Environment began work on regional collaboration with the Metropolitan Water Reclamation District (incorporating anticipated climate change impacts into regional watershed planning); Chicago Wilderness (using CCAP information to help structure their regional climate change response; regional utilities (ComEd and Peoples) about creating regional energy efficiency programs accessible to, and benefitting, customers throughout their regional service territories; Chicago Metropolitan Agency for Planning; Metropolitan Planning Council (transportation and land use committee); and The Metropolitan Mayors Caucus Environment Committee (explore scaling out to the region—including sharing research, process, and resources). DOE and GPP also helped ICLEI to apply for funding to reach out to cities across the region.

Observations: Challenges and Opportunities Transportation solutions for reducing greenhouse gas emissions depend upon regional action. Attracting new energy efficiency and renewable energy jobs depends on regional action. Perhaps most important, transit oriented development to minimize emissions as population grows depends upon regional action.

September 2008

Post-Launch

On September 19, 2008, Mayor Richard M. Daley was joined by leaders from the business and not-forprofit sectors, state and local government officials, and residents to unveil the Chicago Climate Action Plan at a press event (See Appendix 13. City of Chicago announces CCAP release, Sept. 19, 2008). Under the Plan, Chicago will work to



reduce greenhouse gas emissions to 25 percent below 1990 levels by 2020. The Chicago Climate Action Plan outllines a roadmap of 26 actions for mitigating greenhouse gas emissions in four areas: buildings; transportation; energy; and waste pollution. The Plan also identifies nine actions that will help the city adapt to the climate changes already occurring.

At the press event, the Mayor stressed that the effort will require an enormous amount of hard work and cooperation and the commitment not only of government, but also every individual, business, and institution in the City of Chicago. An excerpt of his remarks includes the following key points:

"We can continue to lead by example and the Chicago Climate Action Plan is the next step. We can't solve the world's climate change problem in Chicago, but we can do our part. We have a shared responsibility to protect our planet."

"The benchmark goal is both far enough in the future to allow sufficient time to make substantive changes and close enough to see benefits in our daily lives."

"Thankfully, during this tough economy there is some funding already committed from private resources to help pay for parts of this plan, but not nearly enough. Over the next few years we'll be depending on the commitment and collective action of individuals, businesses and others to do their part. And, of course, it will be very important for Springfield and the federal government in Washington, D.C., to do their part and provide greater resources for public transportation, building improvements, research on new technologies and other measures."

"The benefits of the plan go beyond improving the environment, which is a critical goal in and of itself. The actions that have the greatest impact will save companies and residents money, enhance our quality of life and position the city and its residents for future prosperity."

"At the same time, when we make these improvements we're greening our economy for the future and creating the jobs of tomorrow."

On the day the plan was launched, the City also launched a new web site **www.chicagoclimateaction.org** where individuals and businesses can learn about climate change, what they can do in their daily lives to reduce emissions, and what the City is doing to protect and preserve the environment. Because the Chicago Climate Action Plan takes a long-term approach, progress will be tracked over time and shared with the public at an annual meeting of the Green Ribbon Committee of business and civic leaders. As the City learns what works, the action plans will change. Once the 2020 goal is achieved, the process will continue until the 2050 goal is achieved.