US EPA ARCHIVE DOCUMENT

Comprehensive Climate Planning
November 17, 2011
Julia Parzen, USDN

- Current Context for Climate Action Planning: All About Benefits
- Lessons from the Chicago Climate Action Plan (CCAP)

CHICAGO CLIMATE ACTION PLAN

OUR CITY. OUR FUTURE.

Making the Case By the Benefits

For the Community

For the Municipality

A Way to Save the City and Residents Money

CHICAGO CLIMATE ACTION PLAN

F&F Foods

INDUSTRIAL CASE STUDY

F&F Foods produces cough drops, mints and various over the counter vitamins and tablets for the confectionary and pharmaceutical industry. The total footprint of their buildings is 153,444 square feet.

ENERGY COSTS:
$280,121 per year (including electricity, gas and water)

ACTIVITIES UNDERTAKEN:

- Upgraded to new process technologies
- Replaced existing boiler
- Installed a new closed loop cooling system with a cooling tower that would reduce plant water consumption by over 11,524,099 gallons/year

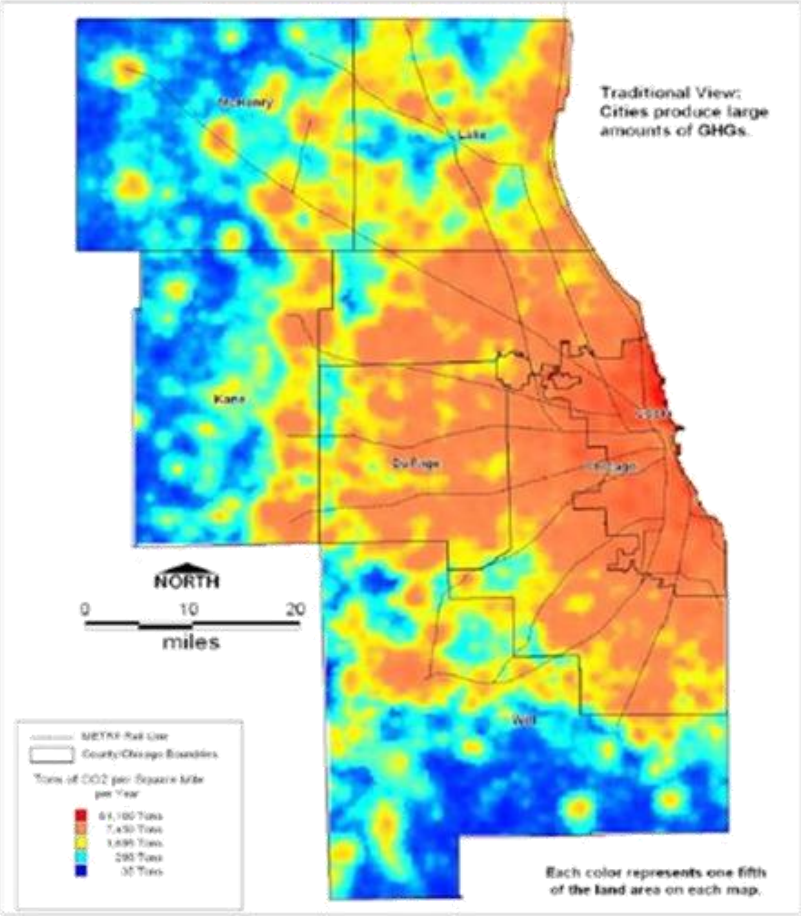
COST OF AUDIT AND RETROFIT:
$785,400

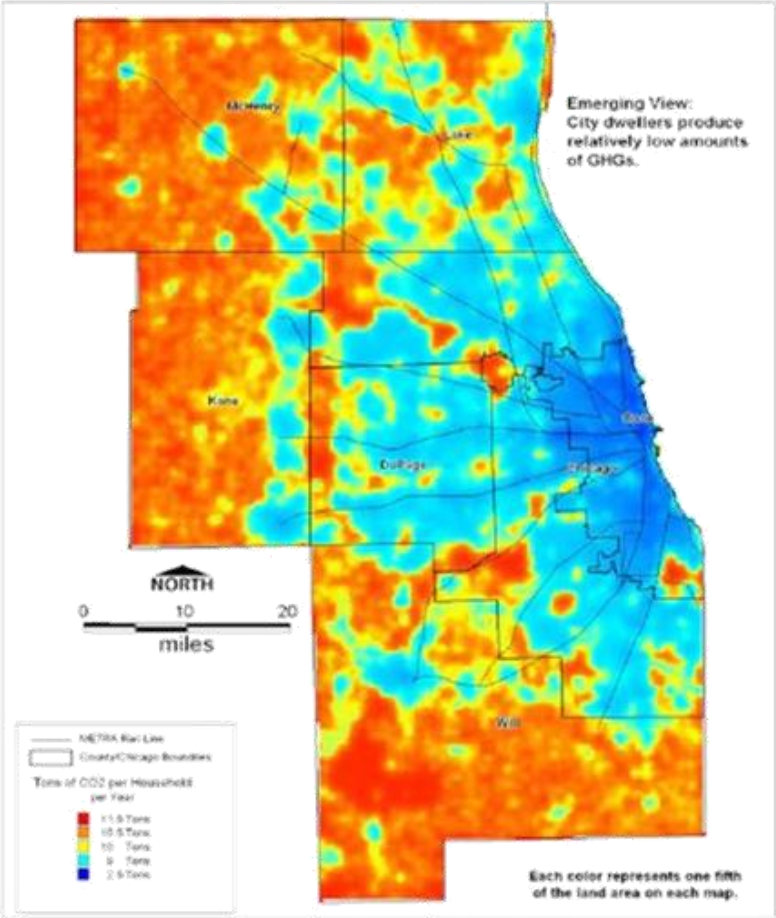
COST SAVINGS:
$296,500 per year

PAYBACK TIME:
2.65 years

CO_2 REDUCTIONS:
218,841 pounds per year

Two Views of Where GHGs Produced





Ex. Transit Oriented Development

- **Transportation # 2 Household Cost**
- **When workers buy homes far from work, they often end up paying more than ½ their income for H + T**
- **Building housing close to transit reduces car use, lowers transportation costs, reduces congestion (and reduces greenhouse gas emissions)**
- **By 2030, the # of US HH wanting to live near transit will grow from 6 M to 16 M (U.S. Census) and they can be accommodated**

A Way to Organize To Exploit New Markets and Job Creation

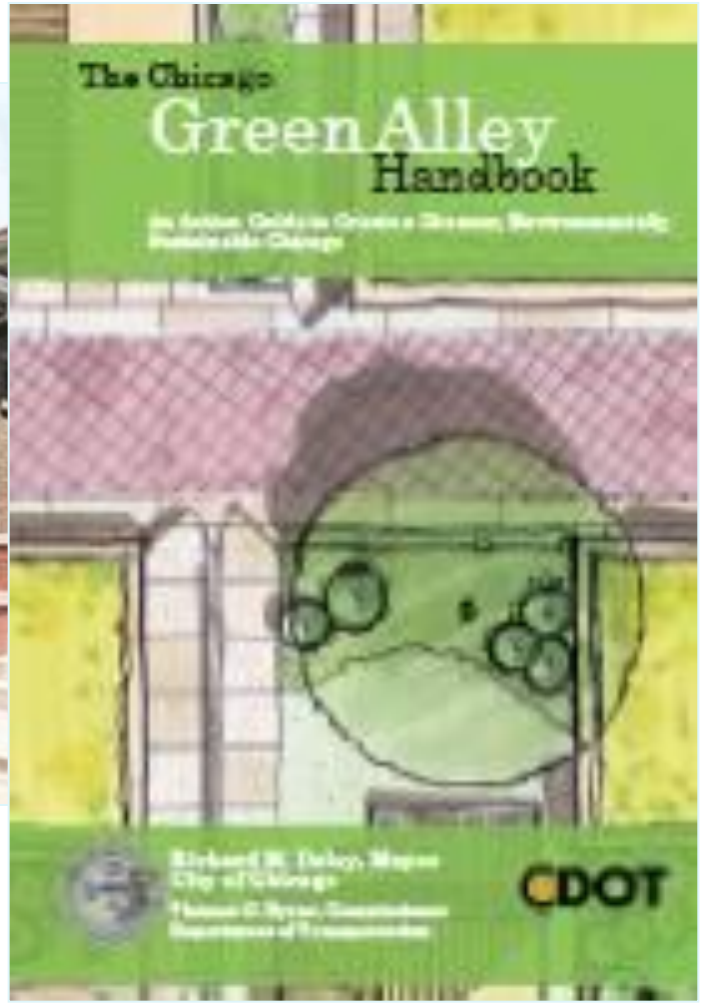
A Way to Preserve Quality of Life

Higher Emissions:
31 days

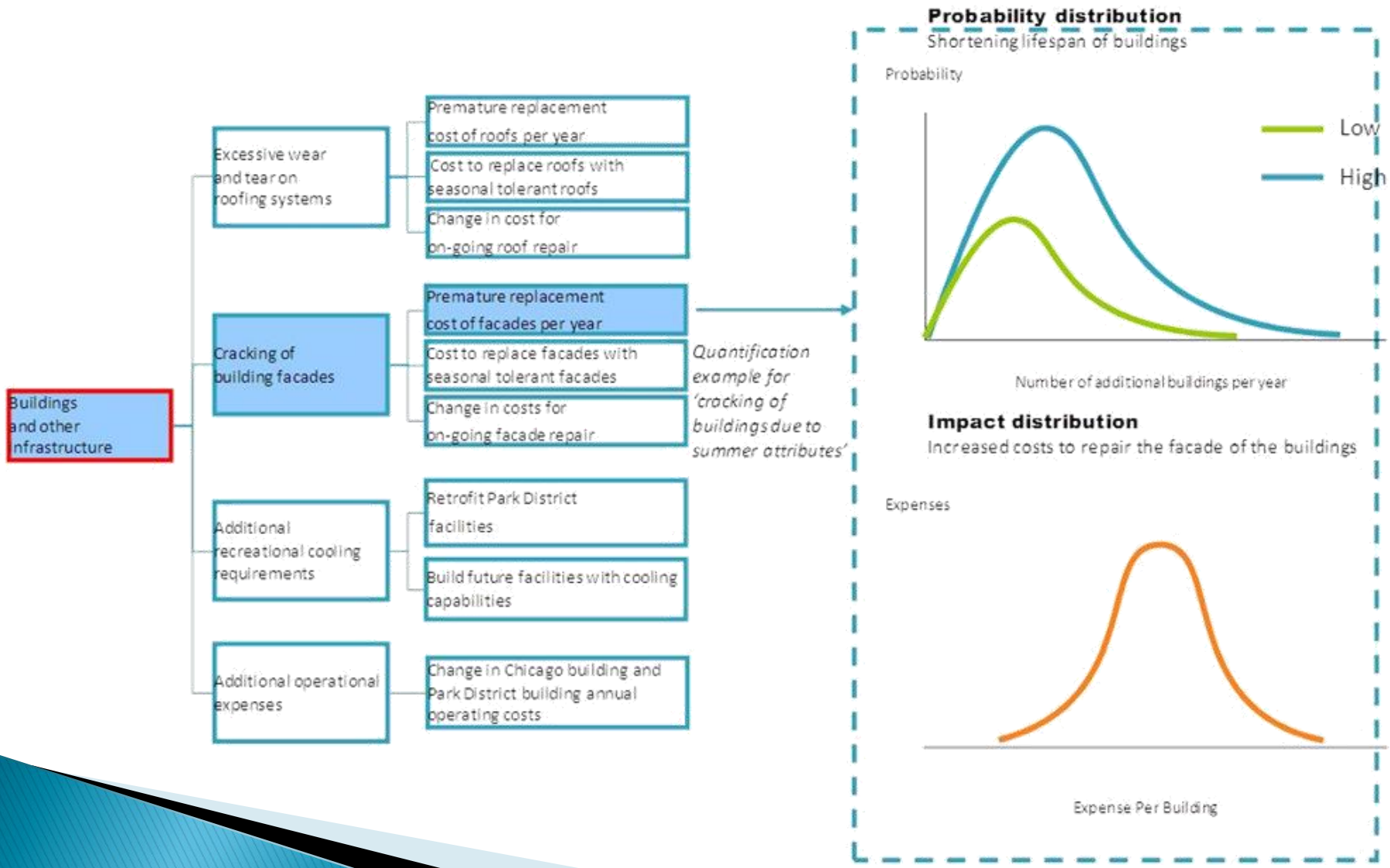
Lower Emissions:
8 days

U of I Research Team

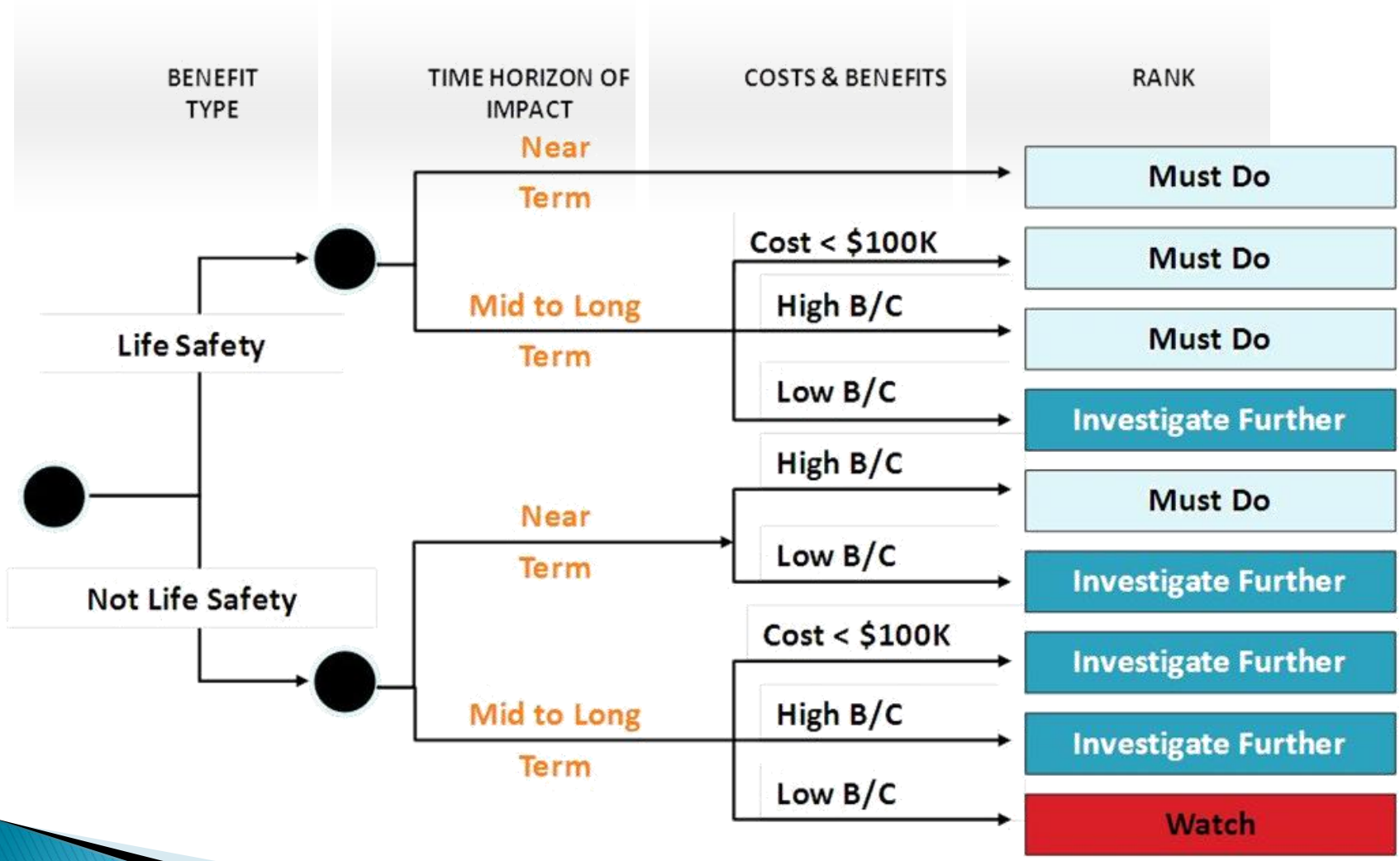
A Way to Organize & Build on Current Initiatives & Leverage Current Resources



A Way to Improve City Planning



Prioritization Process: Adaptation



A Way to Build Cross-Departmental Learning & Improvement

And Long-Term Partnerships and Collaboration Structures

A Way to Get Ready for New Federal RFPs

Energy Efficiency and Conservation Block Grant

Green Jobs Act

Transportation Infrastructure

Green Infrastructure

A Way to Build Philanthropic Partnerships

THE LLOYD A. FRY FOUNDATION

ILLINOIS dceo DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY

The Joyce Foundation

GRAND VICTORIA FOUNDATION

The Legacy Fund

THE NATHAN CUMMINGS FOUNDATION

THE Chicago Community TRUST AND AFFILIATES

The foundation for greater Chicago giving

CLINTON FOUNDATION

WILLIAM J. CLINTON FOUNDATION

Lessons From CCAP

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OUR CITY. OUR FUTURE.

CHICAGO CLIMATE ACTION PLAN

FIVE STRATEGIES

2020 Goals

ADDRESSING THE CHALLENGE OF CLIMATE CHANGE

ENERGY EFFICIENT BUILDINGS	8 ACTIONS	4.6 MMTCO 2e
CLEAN & RENEWABLE ENERGY SOURCES	5 ACTIONS	5.33 MMTCO 2e
IMPROVED TRANSPORTATION OPTIONS	10 ACTIONS	3.61 MMTCO 2e
REDUCED WASTE & INDUSTRIAL POLLUTION	3 ACTIONS	2.03 MMTCO 2e
PREPARATION	9 ACTIONS	
35 WAYS	=	15.1 MMTCO 2e

TO ENSURE A RESILIENT CITY

Summary: 5 Layers of the Plan

10,000 Feet
- 2020 Goals

5,000 Feet
- Annual Goals

1,000 Feet
- Goals for Each Action

500 Feet
- Detailed Action Plans

Cont. Improvement Process
- Performance Tracking and Learning

Deep Assessment

Helped Chicago to:

- Understand Impacts Of Action & Inaction
- Choose Ambitious, But Doable Goals
- Prioritize Actions
- Demonstrate Credibility Of Decisions
- Engage The Public
- Track Performance

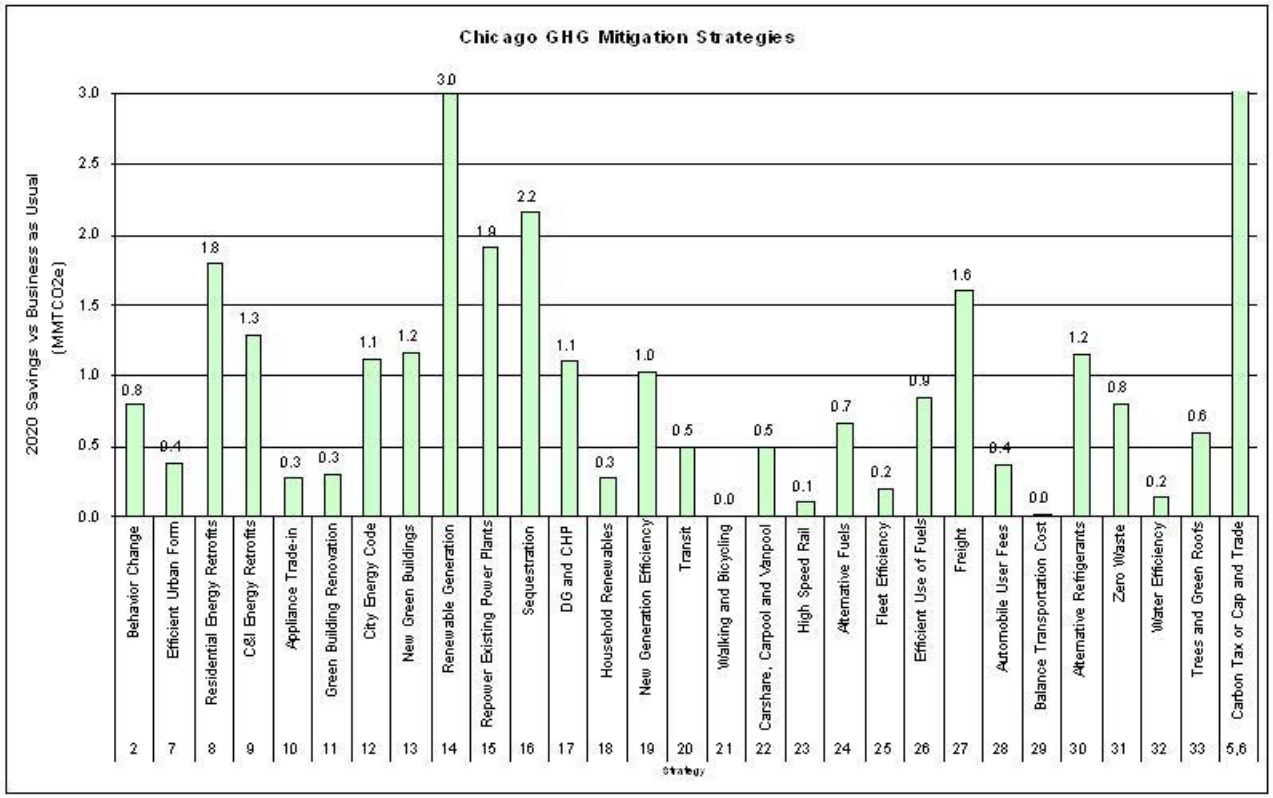
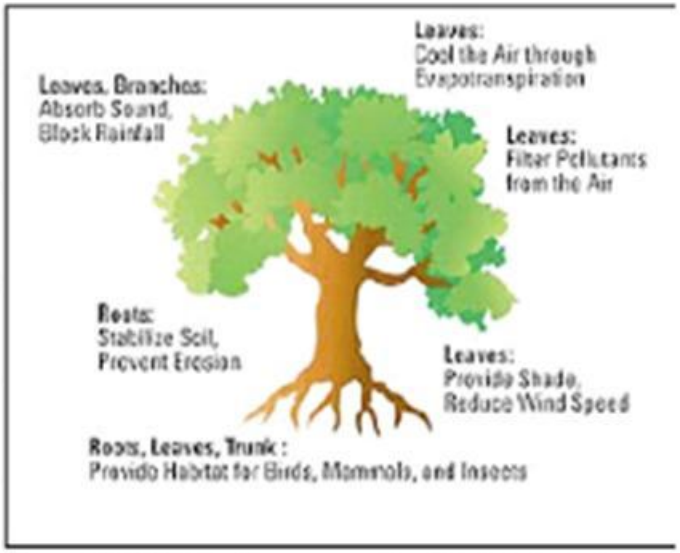


Illustration: Power of Assessment

Strategy Summary	Rating	Value
CO2e Savings Against BAU	+	0.10-0.17 MMT CO2e
Scale of deployment	+++	Plant one million new trees by 2020 and add 500 green roofs per year
Timing	+++	Start in 2008
Regional Impact	+	Full data unavailable
Financial Savings in relation to Cost	+++	Low costs, energy savings
Additional Benefits in relation to Burdens	+++	Many documented environmental and social benefits to greening
Feasibility assessment	++	Large in scale, but politically and culturally popular

Figure 1 Benefits of Trees



Source: U.S. EPA, http://www.epa.gov/heatisland/strategies/vegetation.html

Trees Have Low CO2e savings, High Cooling & Other Benefits

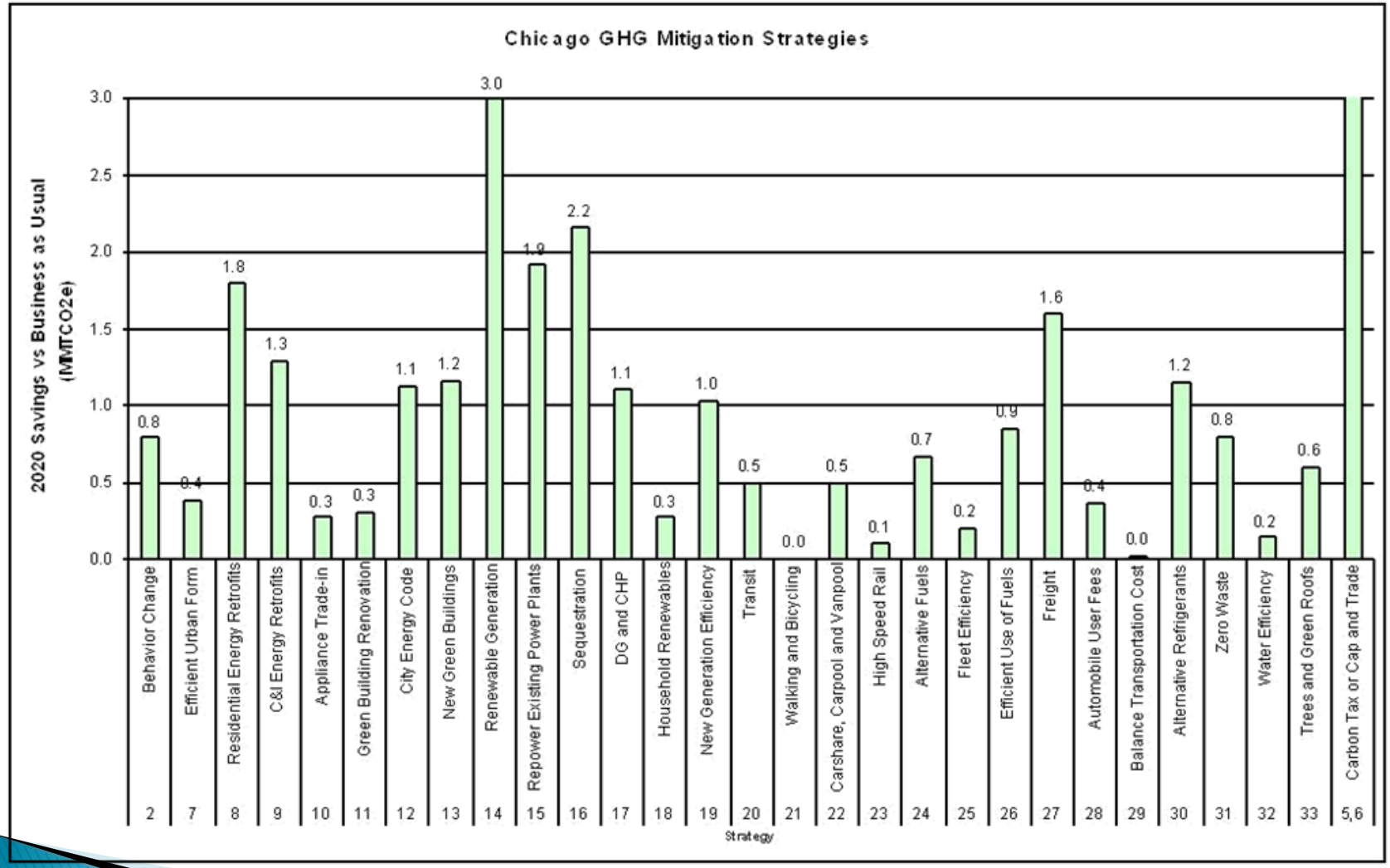
12 Page Overviews for Each Action:

Including Recommendations for Potential to:
- **Scale up Current Programs**
- **Import Programs from Other Cities**
- **Achieve Other Benefits (Jobs, Cost Savings, Etc.)**

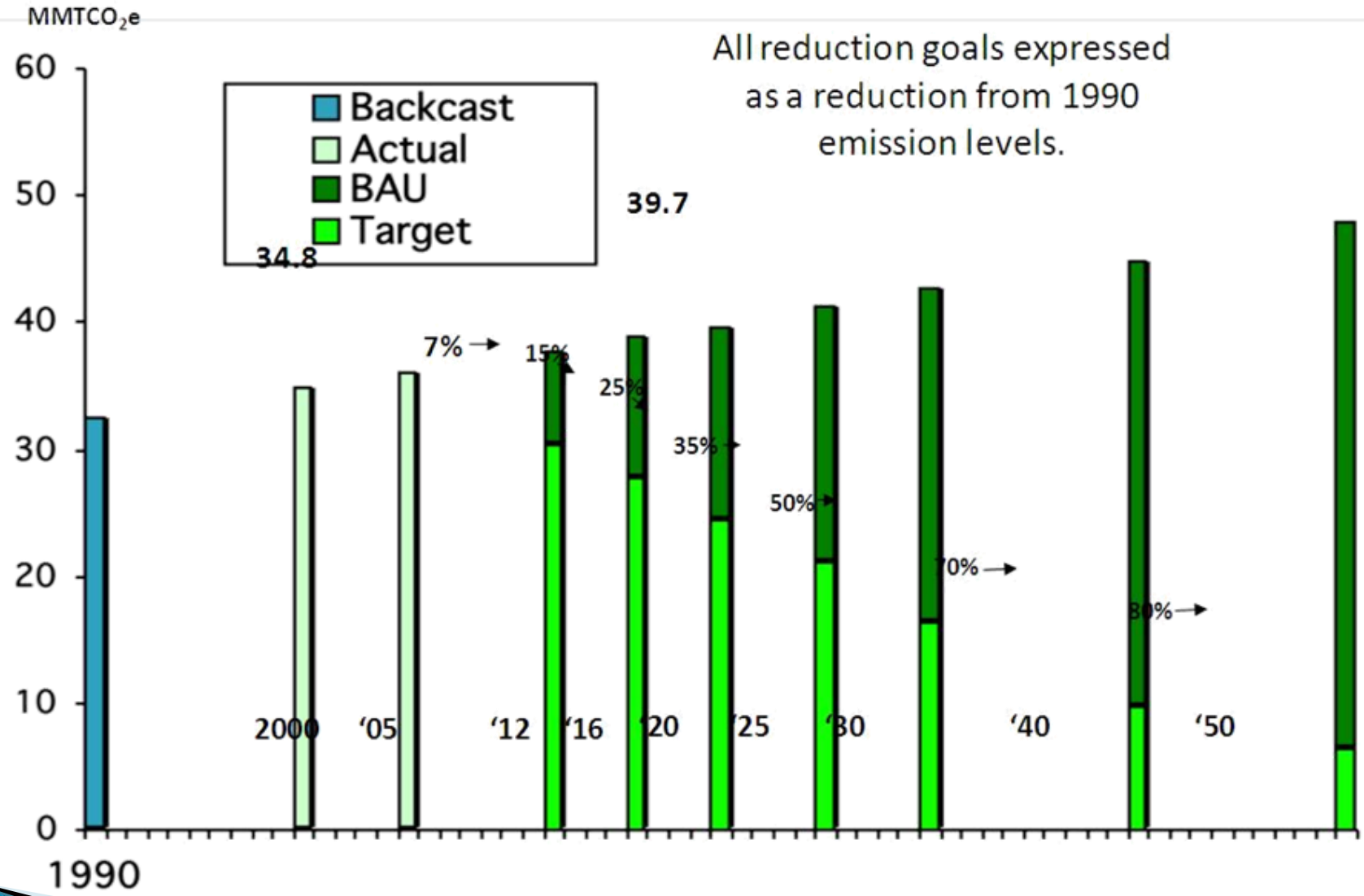
Ex. Residential Building Retrofits

Strategy Summary	Scale	Value
CO2e Savings Against BAU	+++	1.3 MMTCO2e
Scale of deployment	+++	400,000 homes
Timing	+++	beginning with 6,000 homes in 2008
Regional Impact	+++	2.5 MMTCO2e
Financial Savings in relation to Cost	+++	12.5 – 30% ROI
Additional Benefits in relation to Burdens	+++	affordable housing
Feasibility assessment	+++	proven models

Goals for Each Action



Annual Reduction Goals



How Chicago Did It: Deep Assessment

- Research Advisory Committee, Expert Consultants
- Research on likely priority climate change impacts
- Emissions baseline & projections
- Scan of current city initiatives, resources and capabilities
- Scan of funding & other opportunities
- Benchmarking against best practices from other cities
- Prioritization process for mitigation & adaptation options

Broad Engagement

Helped Chicago with:

- **Expert advice**
- **Offers of resources and partnerships**
- **Increased cross-departmental collaboration**
- **Buy-in**

Multi-Stakeholder Task Force

Recommend to the Mayor:

- **Goals for GHG emissions reductions and preparation for climate change**
- **Actions to achieve the goals**
- **Strategy to engage all of Chicago**

Departmental Engagement

Multi-Stakeholder Task Force and Working Groups	
Green Steering Committee	• Departments and Sister Agencies • Monthly Meetings
Multi-departmental working groups	• Developed Plans • Periodically Will Update
Sign Off By Every Department on Plan	

Public Outreach

How Chicago Did It: Productive Planning and Engagement

- Hire expert facilitation
- Involve researchers in the process
- Develop Engagement Plan
  - Task Force
  - Departmental Steering Committee & Work Groups
  - Other Committees/Sector Groups
  - Summits (Business, Community, Labor)
- Plan for at least 3 meetings
  - Introductory Briefing
  - Brainstorming
  - Prioritization
- Develop communications function and plan

Early Start on Implementation

Helped Chicago to:

- Identify barriers before go public
- Show early progress, which built support and countered skepticism
- Have time to learn and manage expectations
- Be ready for new federal resources for climate mitigation and energy

Detailed Implementation Plans: Retrofit Example

Number of retrofits

HORIZON #3
5+ years

48,000+ retrofits total

Key Question
How to transform the demand side of the market?

Desired Impact
30,000 retrofits per year

HORIZON #2
2-5+ years

18,000-25,000 retrofits per year

Key Question
How to best stimulate retrofit activity without providing direct funding?

Desired Impact
10,000-15,000 retrofits per year

HORIZON #1
0-3+ years

8,000-10,000 retrofits per year

Key Question
How to best utilize ~$13M over which the CDOE has influence to conduct actual retrofit implementation?

Sample Key Issues
Which housing segments should we target?
Which programs are best suited and scalable for each segment?
How do we optimize DOE's role to get the most impact?

Potential Building Block
Grants
Full retrofits
Targeted measures
Subsidized audits
Vouchers
Fairs
Block by Block

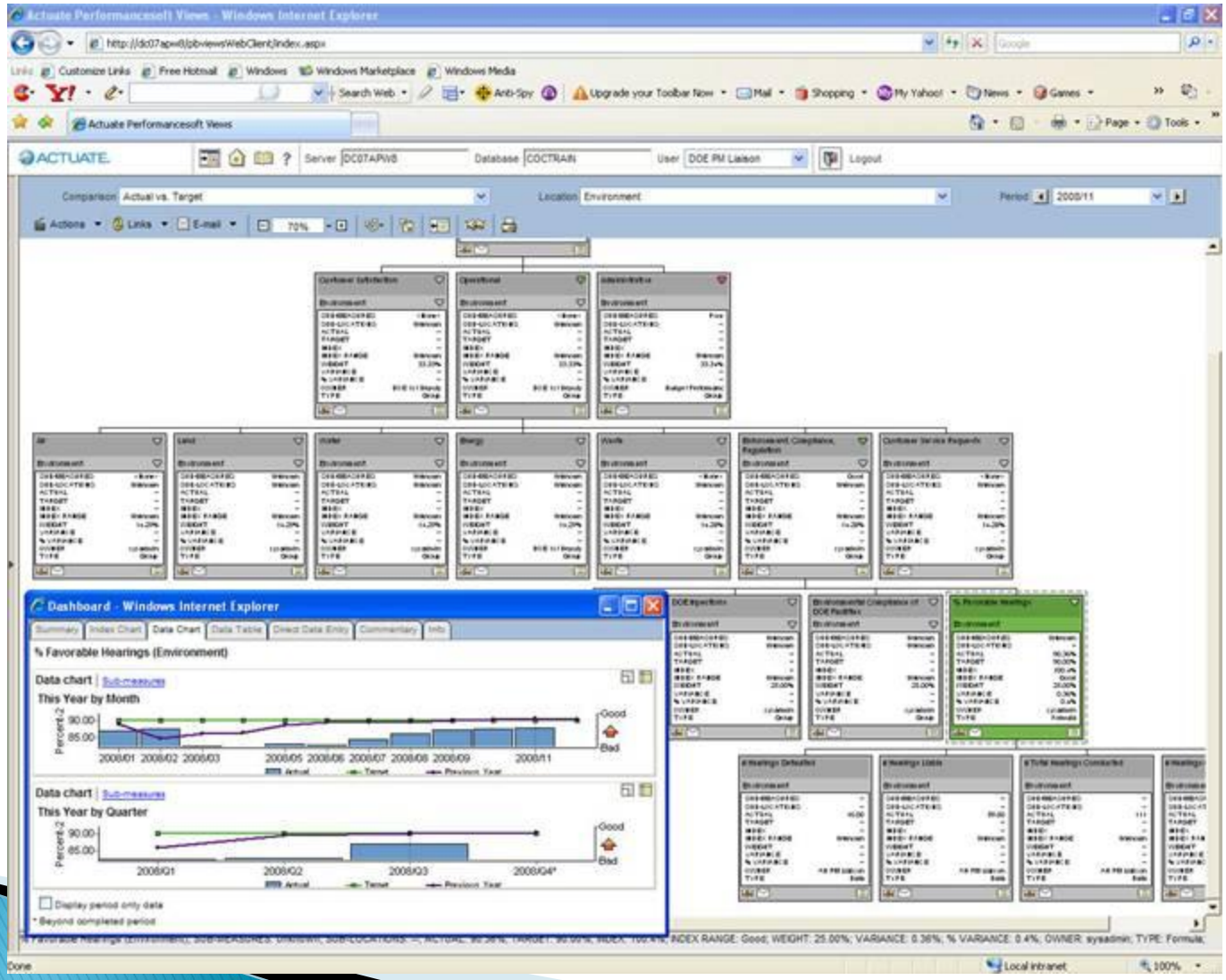
Desired Impact
8,000-10,000 retrofits per year

Time, in years

How Chicago Did It: Rapid Shift to Implementation

- Develop and staff Working Groups
- Develop assessment plans, budget and funding
- Develop and implement performance tracking plan
- Hire consultants
- Include in each plan:
  - Benchmarking and Inventory
  - Financing strategy
  - Communications and public engagement plan
  - Performance Tracking Plan
  - Costs and Benefits
  - Jobs and Economic Development Plan

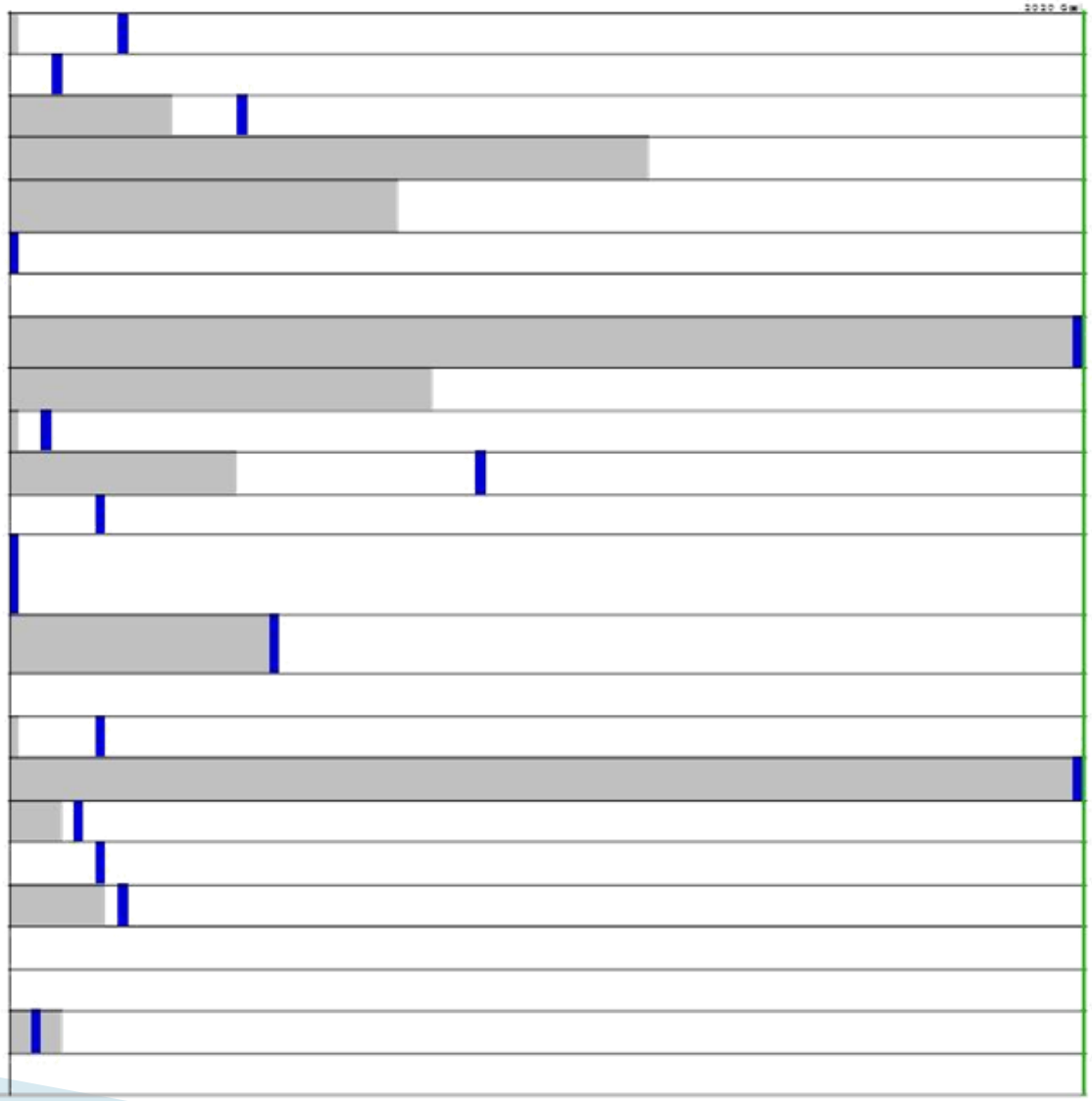
Performance Tracking to Inform Continuous Improvement



Tracking By Action

CCAP 2008-2009 DASHBOARD PROGRESS BY ACTION - DRAFT

		Action	Cumulative Implementation			
			2009 Actual	2010 Target	2020 Goal	Units
Energy Efficient Buildings	1	Commercial industrial retrofits	393	2,283	9,200	Buildings
	2	Residential retrofits	14,923	28,417	400,000	Dwellings
	3a	Appliance Trading	20,540	42,000	187,000	Appliances
	3b	Lightbulbs	2.41	780	4.01	Millions
	4	Conserve water	7,244	780	19,714	Millionsgallons water saved
	5	Update city energy code	223	480	421,000	Buildings
	6	New guidelines for renovations	0	780	780	TBD
	7a	Trees	28.4	27.0	28.8	Thousands of acres of canopy
	7b	Green Roofs**	1.8	780	4.8	Millions of sq ft
	8a	Residential savings challenge	8,388	9,388	888,000	Participants
	8b	Green Office Challenge	72,000	140,000	217,440	MW
Clean Energy***	11	Build renewable electricity	18,400	300,000	3,000,000	MW
	12/13	Distributed generation of renewable electricity	0.28	14,000	1,120,000	MW
Transportation	14/15	Invest more in transit & expand incentives	27.8	27.2	140.7	Mil of increased ridership
	16	Transit oriented development	0	780	780	TBD
	17a	Walking**	8.82	8.24	11.3	Mil of commuters
	17b	Biking**	1.04	1.12	1.00	Mil of commuters
	18a	Car share	626	780	6,200	Number of cars
	18b	Carvanpooling**	0	6,200	68,200	Commuters
	19	Improve fleet efficiency	221	346	3,020	Number of vehicles
	20	Fuel efficiency standards	0	0	7.8	MG
	21	Switch to cleaner fuels	240	288	78,000	Thousands of gallons
	22	[illegible]	0.12	2.98	3.61	Mil of boardings
	23	[illegible]	[illegible]	[illegible]	[illegible]	TBD



How Chicago Did It: Managing a Complex Process

- Plan for Staffing
  - Internal Team
  - Nonprofit /External Project Manager and Partner
- Secure Support and Liaison from Mayor's Office
- Create a Plan and Time Line (1 Year +)
  - Assessment
  - Planning and Outreach
  - Implementation
- Develop Budget and Funding Partners
- Choose Research Advisory Committee and Consultants
- Choose Task Force and Committee Members

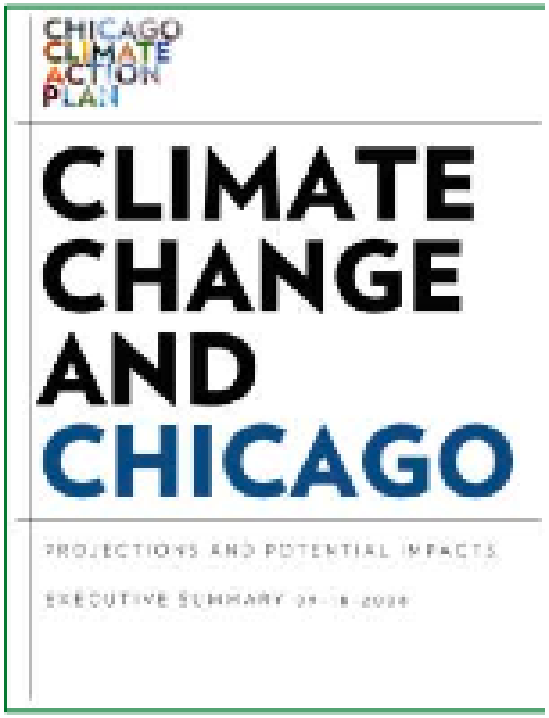
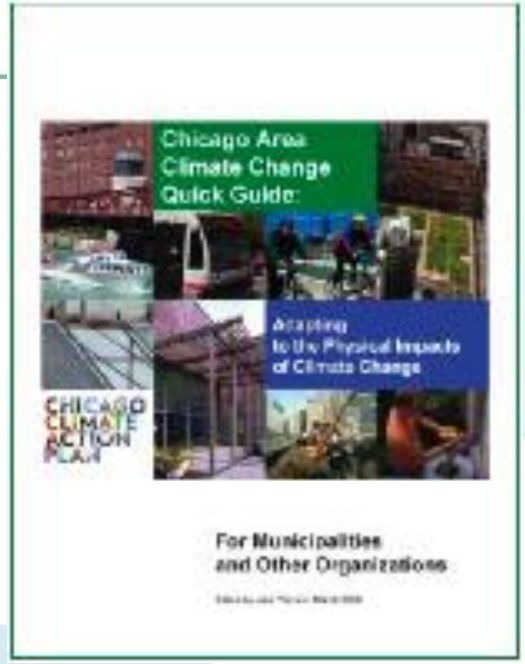
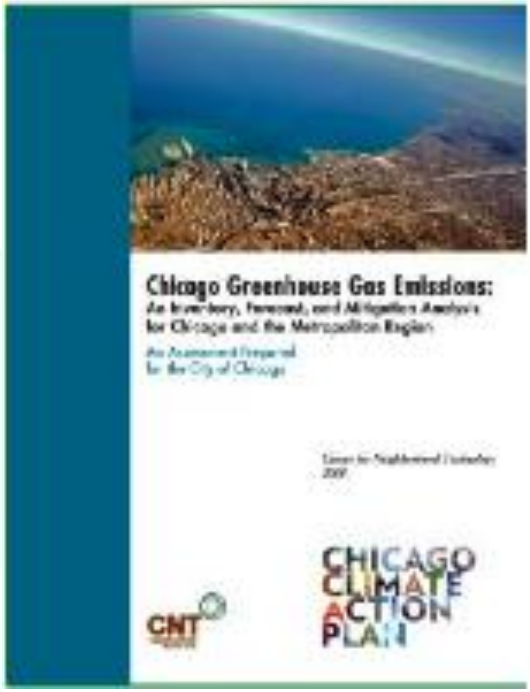
A Nonprofit Partner

Non-Profit
Partner Roles:

- **Strategy**
- **Project Management**
- **Facilitation**
- **Partnership Building**
- **Fundraising**
- **Grant Management**
- **Contractor Management**

Summary: What Chicago Says About Factors for Success

- ✓ Using Climate Action As A Means to A Common Vision for Prosperity & Resilience
- ✓ Early Support From the Mayor
- ✓ Early Support From Government, Civic, and Business Leaders
- ✓ A Senior Level Champion
- ✓ Dedicated City Staff Time
- ✓ Strategic Non-Profit Partner
- ✓ Solid Analysis
- ✓ Systematically Building on Existing Initiatives
- ✓ Dedicated Analysis and Planning Funds
- ✓ Foundation Partners
- ✓ Task Force of Supportive Local Leaders
- ✓ Process for City Commissioners & Sister Agencies
- ✓ Frequent Public Events and Climate Summits
- ✓ Early Start on Implementation
- ✓ An Aligned Communications Strategy
- ✓ A Mechanism for Tracking Progress

All CCAP Reports Available

http://www.chicagoclimateaction.org/pages/research___reports/8.php