



# Economic Recovery: Energy & Residential Retrofits

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# Recovery Partnership

The City of Chicago and its sister agencies are preparing to receive and administer \$1 billion in formula-funded grants through the American Reinvestment and Recovery Act (ARRA). They will seek possibly hundreds of millions more through the Act's competitive grant opportunities.

With Chicago's foundations, the City is forming The Recovery Partnership, which will include the public and private agents key to recovery. The Partnership's goals are:

- Align and pool Chicago's collective resources, public and private
- Support the effectiveness of nonprofit organizations seeking and implementing stimulus programming
- Invest quickly, efficiently, and innovatively, for maximum benefit
- Ensure the stimulus leaves a sustainable, lasting legacy

## **The Recovery Partnership will help Chicago expand quality programs as quickly as possible**

### **Align and pool Chicago's collective resources, public and private**

- Identify and fill gaps in ARRA funding (e.g., bridge loans, nonprofit infrastructure)
- Align ARRA funds and foundation grants, where possible, for maximum leverage
- Collaborate to produce highly competitive proposals for ARRA grants

### **Support the effectiveness of nonprofit organizations seeking and implementing stimulus programming**

- Identify best practice and high performing organizations with capacity for scale

### **Invest quickly, efficiently and innovatively, for maximum benefit**

- Help nonprofits scale up quickly
- Provide research to guide investment decisions

### **Ensure the stimulus leaves a lasting legacy**

- Help non-profits plan for and finance sustainability
- Monitor, report, and evaluate Chicago ARRA efforts, in accordance with federal regulations

# Chicago Climate Action Plan Goals

- Retrofit 400,000 residential units to a 30% energy efficiency level by 2020
- Support EE retrofits of public, affordable and market rate housing units
- Transform market to recognize value of energy efficiency.
- Expand renewable and alternative energy generation and application in the City.

# Overview: Housing Retrofits

## **Data/Analysis Tools:**

- Energy Intensity Database (Center for Neighborhood Technology)
- Leveraged Financing Plan (Delta Institute)
- On-the-Ground Pilot Analysis (Katzenbach Partners)
- Market Transformation (RW Ventures)

## **Pilots:**

- Multi-Family Energy Service Contracting (ESCO)
- Big Box Retailers
- TIF PEP (Performance Energy Program)

## **Ongoing Partnerships with NGOs:**

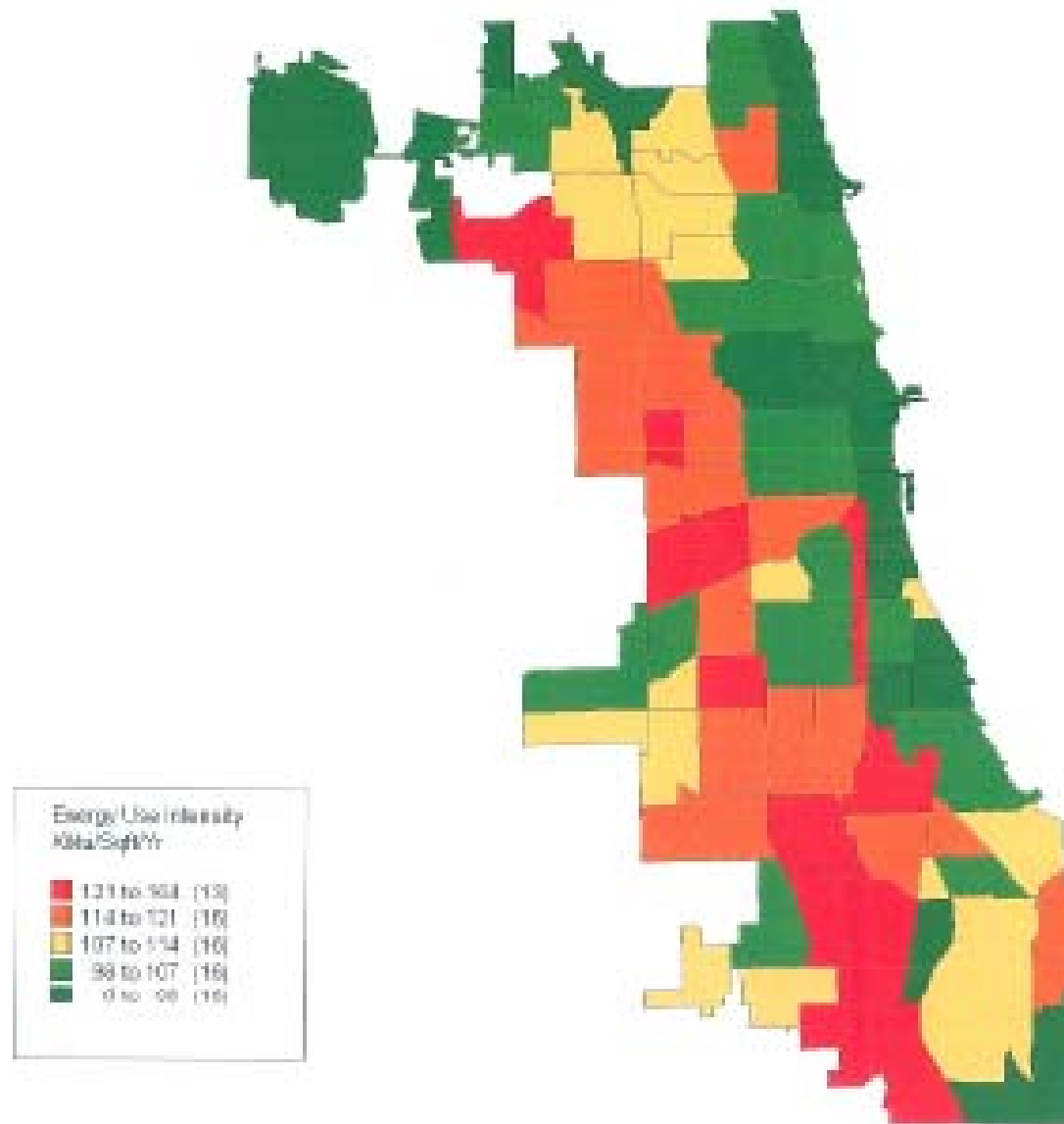
- Energy Savers & Preservation Compact

# Energy Intensity Database

## **Goal:**

- Establish a baseline of energy consumption for Chicago's residential, commercial & industrial buildings
- ComEd & People's Gas data matched on PIN, address & tax assessor data
- Identify buildings to target for energy efficiency programs
  - By sector
  - By location
  - By building type

## Energy Use Intensity of Two to Four Unit Homes by Community Area in Chicago, 2005



# Multi-Family Apartment Retrofits/Energy Service Company (ESCO) Model

Working with City Departments, JP Morgan Chase, Clinton Foundation, Mercy Housing, Bickerdike, Bethel, The Resurrection Project & St. Edmunds to pilot energy efficiency retrofit program in heavily leveraged, multi-family apartment buildings. First 314 units complete.



## Big Box Retailers

- Working with 2 big box retailers to expand current offerings to include energy efficiency
- One – Sears -- launched pilot in Orange County in November, 2008
  - Customer interested in buying energy efficiency appliance is told about energy efficiency auditing; Sears finances through credit card; and partners with HVAC and other contractors to do larger-scale work
  - Interested in launching in Chicago in 4th quarter, 2009

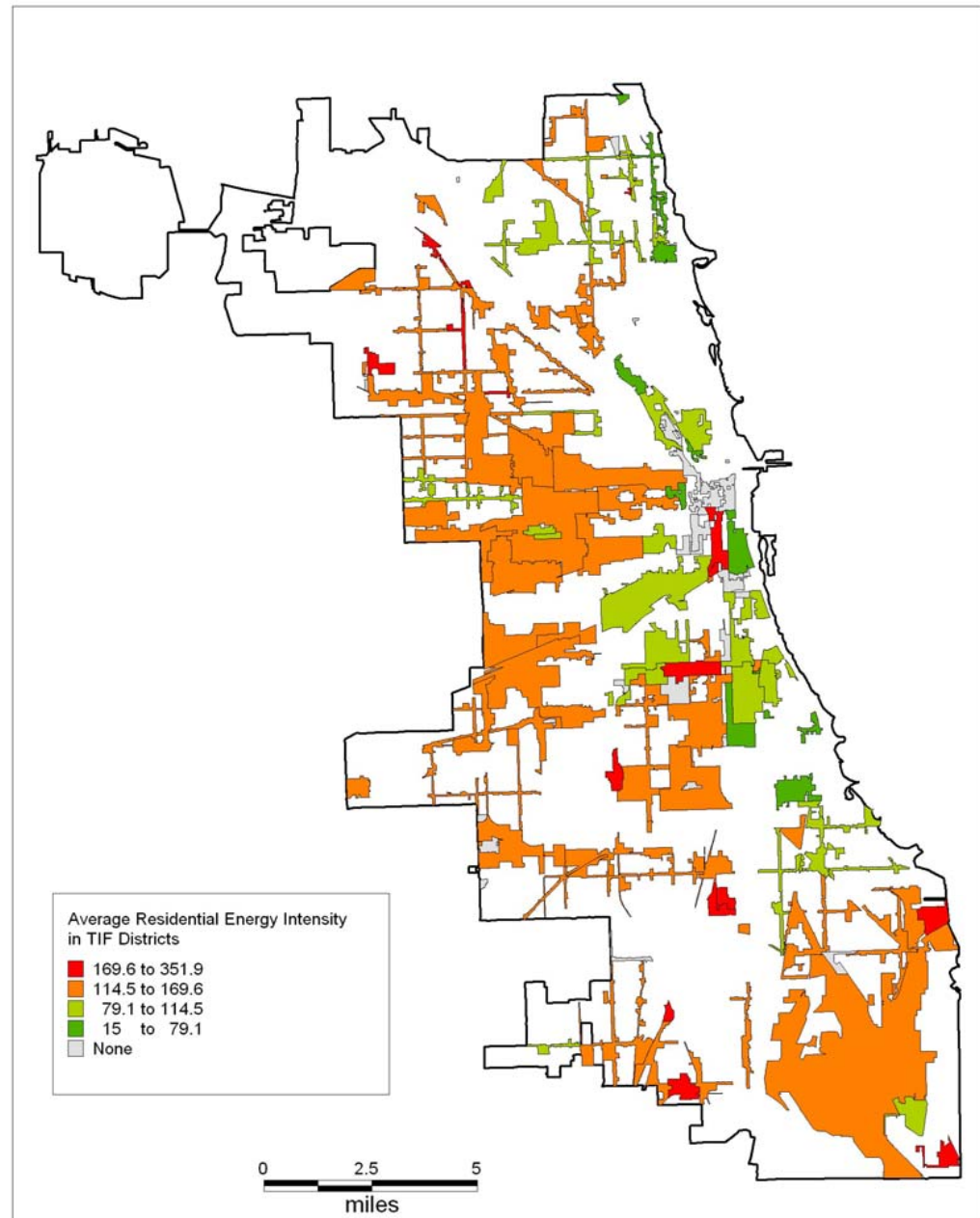


# TIF PEP

Using energy use data, target residential TIFs with high energy use and available funds to finance energy efficiency retrofits.

Target all commercial-industrial TIFS with available funds.

Average Residential Energy Intensity by TIF District



# Using settlement and targeted funds, CDOE has driven 4,114 retrofits through 10/08 via pilot programs

## Programs providing retrofits

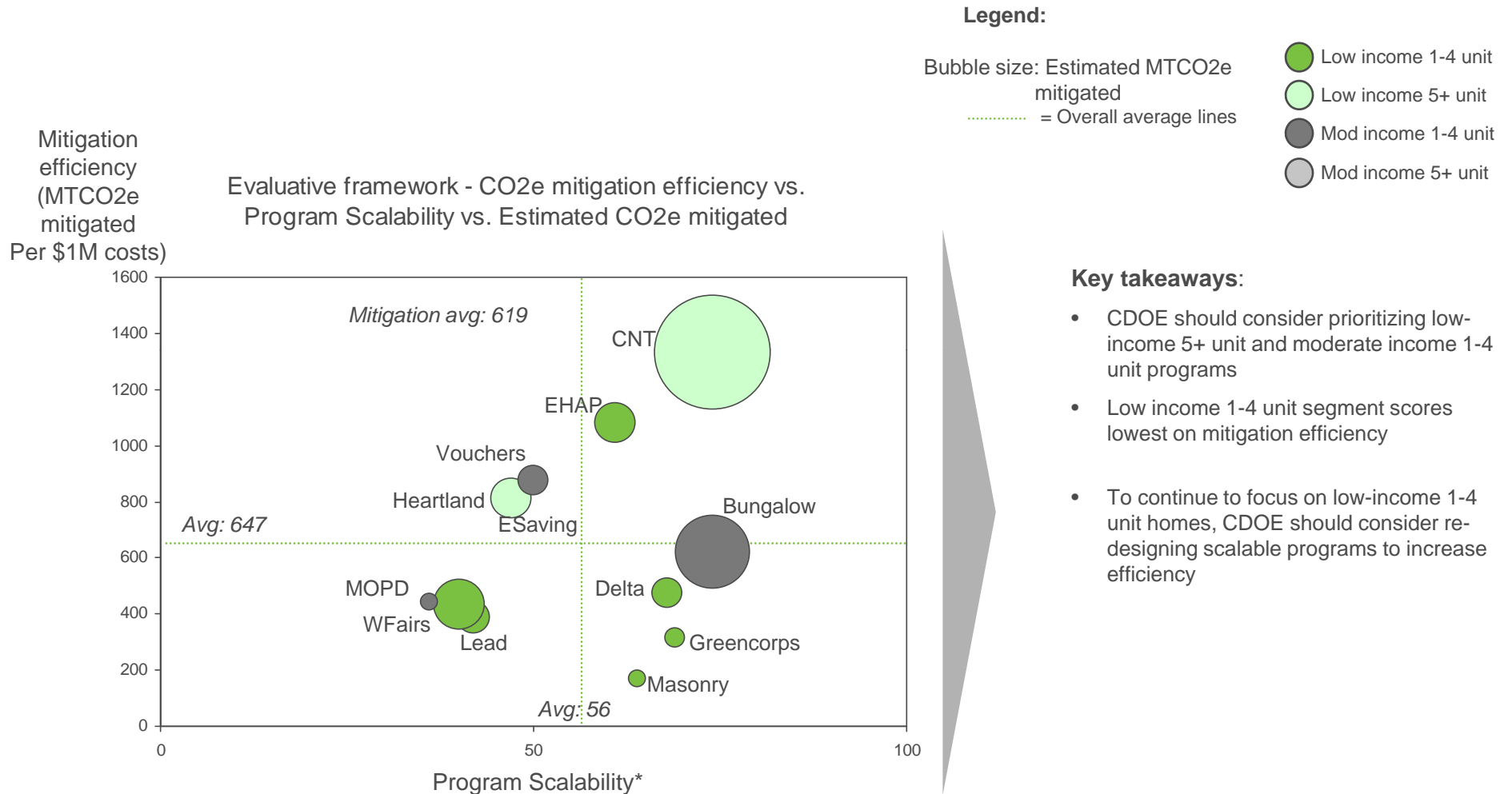
Managing Organization	Program (FY of funds distributed)	Planned units	Completed units	CDOE \$ Investment
Center for Neighborhood Technologies	Chicago Energy Savers Program ('07)	1,200	1,882	\$450,000
Department of Housing	EHAP, HRAIL, TIF, Targeted Blocks ('08)	1,602	TBD *	\$2,050,000
Department of Housing	Energy Service Contracting in Multi-Fam Homes ('08)	314	TBD *	\$1,178,418
Department of Housing	Bungalow Association ('06-'08)	800	654	\$500,000
Department of Housing	EHAP - Emergency Housing Assistance Program ('06-'07)	280	279	\$400,000
Department of Housing	NHS - Energy Savers Program ('08)	350	TBD *	\$300,000
Heartland Alliance	Property and Asset Management ('07)	664	500	\$572,594
Heartland Alliance	Energy Saving Program ('07)	50	50	\$52,800
Department of Public Health	Lead Abatement Programs ('06-'07)	641	451 *	\$712,578
Mayor's Office for Disabilities	HomeMod Program ('06-'07)	124	99	\$200,000
The Delta Institute	Community Weatherization ('07)	73	77	\$559,491
Department of Environment	Greencorps Chicago ('06-'07)	77	72	\$154,467
Department of Environment	Greencorps Chicago ('08)	160	TBD *	\$400,000
CEDA Weatherization	Masonry Multi-Family Energy Miser ('07)	50	50	\$512,235
<b>Total</b>	<b>Programs providing retrofit materials or indirect impact</b>	<b>6,383</b>	<b>4,114<sup>1</sup></b>	<b>\$8,042,583</b>
Managing Organization	Program (FY of funds distributed)	Planned units	Completed units	CDOE \$ Investment
Department of Environment	Weatherization Fairs ('06-'07)	32,675	32,675	\$1,630,372
Department of Environment	Weatherization Fairs ('08)	15,000	0	\$720,909
Department of Environment	Home Depot Voucher Program ('06-'07)	7,000	5,163	\$280,000
Department of Environment	Alternative Tech Programs ('06-'07)	N/A	N/A	\$1,262,000
No organization listed	Single Family Preservation ('08 ComEd Targeted Funds)	800	0	\$598,550
No organization listed	Multi-Family Project Based Section 8 ('08 ComEd Targeted Funds)	4,500	0	\$177,285
Citizens Utility Board	Hardship Program ('07)	N/A	N/A	\$100,000
Spanish Coalition for Housing	SCH Energy Conservation Awareness (2007)	N/A	N/A	\$20,000
Korean American Community Services	KAC: Power in Your Hands (2007)	N/A	N/A	\$18,900
<b>* Total</b>	<b>Programs are either in progress or not yet underway; slated for completion in 2009</b>	<b>N/A</b>	<b>N/A</b>	<b>\$4,808,016</b>

<sup>1</sup> Does not include private sector retrofits; preliminary - full accounting audit underway  
Source: CDOE documents, Interviews with program managers, Katzenbach analysis

## Key takeaways:

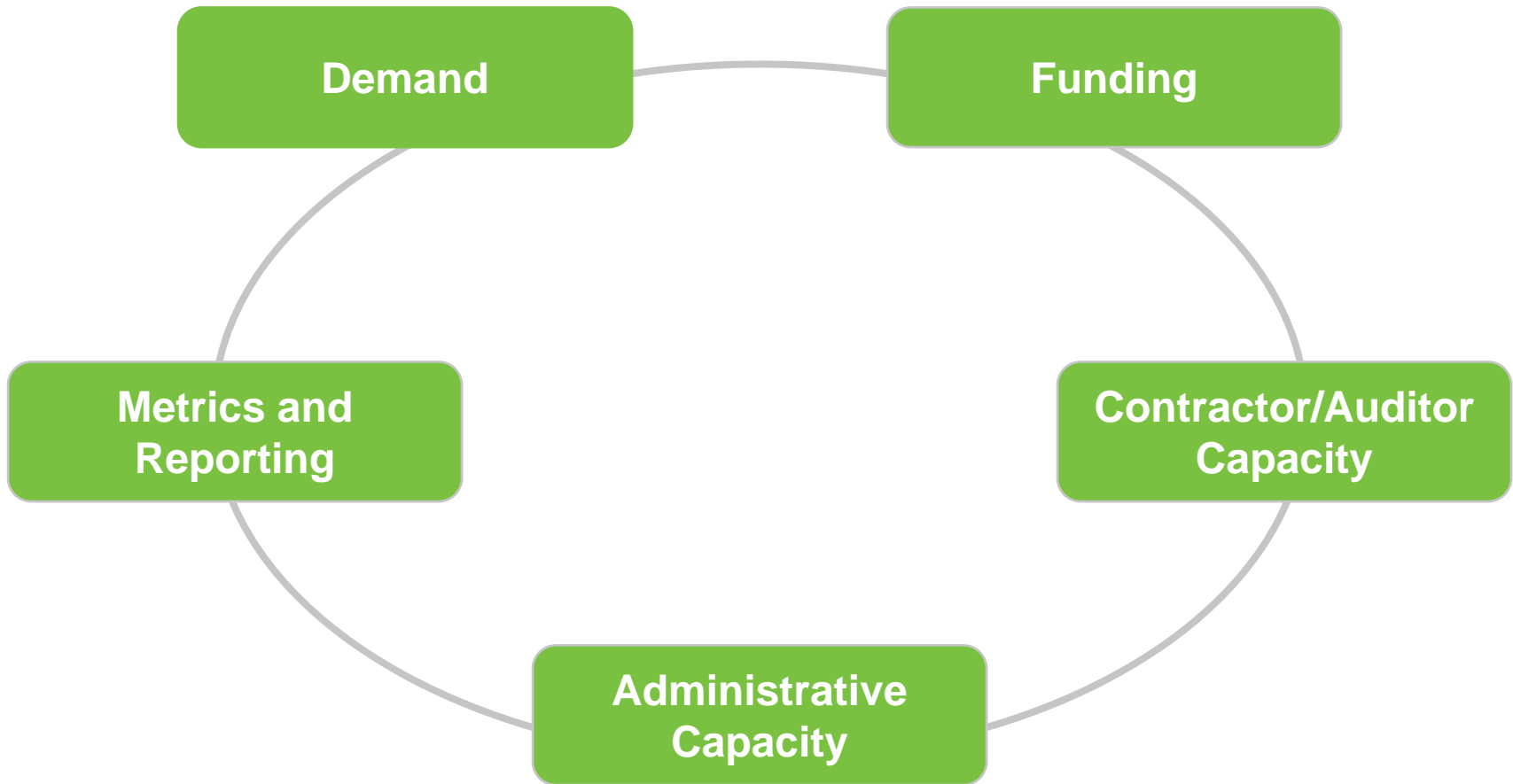
- “Completed retrofits in a calendar year” is the metric that will count towards the CCAP goal going forward
- Asterisked programs were planned for 2008, but will complete most of their units in 2009
- CDOE should consider exploring ways to track and capture all retrofit related private and non-profit activity outside of City-funded programs: ComEd EEPS, CNT, NHS, Delta, CCI, for example
- Standardizing the planning, reporting, and tracking of completed retrofits will be important for measuring progress going forward
- Significant funding was spent on education, awareness, and retrofit materials programs that do not provide direct retrofits

# Katzenbach's evaluative framework highlights standout programs from the completed 2008 pilots



\* Scalability is a qualitative score from 0-100; programs are given a 0-4 score in 6 weighted categories: Funding scalability, Program interest and fit, Infrastructure capacity, Marketing approach, Administration scalability, Potential CO<sub>2</sub>e mitigation market size  
 Source: DOE, CCI, and CNT documents, Katzenbach analysis

**Katzenbach Partners identified five constraints that appear to have the greatest potential impact on retrofit market**



## There are nuanced constraints within each general area that have varying levels of potential impact

Area	Nuanced Constraints	Potential Impact
<b>Demand</b>	Some low-income residents are hesitant to allow city agencies into their homes	High
	Difficult to effectively enroll low-income residents at scale	High
	Low general awareness about retrofits and their impact on the environment	High
	No “trusted source” for contractor and supplier information	Moderate
	Lack of a “green” supply infrastructure to facilitate people installing measures themselves	Low
<b>Funding</b>	Contractor access to credit	High
	City procurement and payment processes	High
	5+ unit building owners’ access to credit	Moderate
	Limitations on available options for financing non-subsidized retrofit projects	Low/Moderate
<b>Auditor/ Contractor</b>	Very few contractor supervisors that have retrofit experience	High
	Lack of retrofit standards	High
	Davis Bacon applied to weatherization work	High
	Small number of rated auditors	Moderate
	Shortage of auditing equipment (e.g., blower door testers, infra-red guns)	Moderate
	Few major contractor companies currently performing retrofits	Moderate
	Shortage of trained specialists (HVAC, plumbers, carpenters)	Low

## There are nuanced constraints within each general area that have varying levels of potential impact (continued)

Area	Nuanced Constraints	Potential Impact
<b>Administrative</b>	Payment and retrofit logistics administration	High
	Independent verification and quality control	High
	Managing the various funding streams to ensure that each home receives maximum funds	High
	Developing relationships between NGOs to coordinate activities	Low
<b>Metrics and Reporting</b>	Partner reporting compliance	High
	Standard reporting system with integrated guidelines	High
	Coordination among a wide variety of stakeholders	High
	Ensuring data integrity	High

### **NEXT STEP:**

Medium- term strategy by June 30. Strategy to create an efficient retrofit market. Topics: Marketing and segmentation, design of one-stop “information center”, standards and contractor training/certification, financing options, role of “mandates”, metrics and reporting.

# ARRA Plans

## EECBG Formula Funds:

- \$5.1M residential retrofits (complement other funds for retrofits)
- \$13M LED traffic signals & street lights
- \$8M City facility retrofits

## Seeking competitive Funds for RE:

- Sunpower/Exelon – 10 MW installation – largest in country
- Allcell – battery cell pilot
- State Energy Program - Geothermal for affordable housing

## **ARRA Plans, continued**

Seek ARRA Competitive Funds for EE - Options  
(collaborate with foundations and private sector in  
developing proposals):

- Revolving loan fund for customers to finance retrofits
- Revolving loan fund for non-profits and contractors to help cover cash flow gaps
- Training resources to help nonprofits build administrative capacity to match funding opportunities
- Gap funding for multi family ESCO project
- Cover cost of energy audits for non-profits
- Fund development of a Retrofit Services Organization