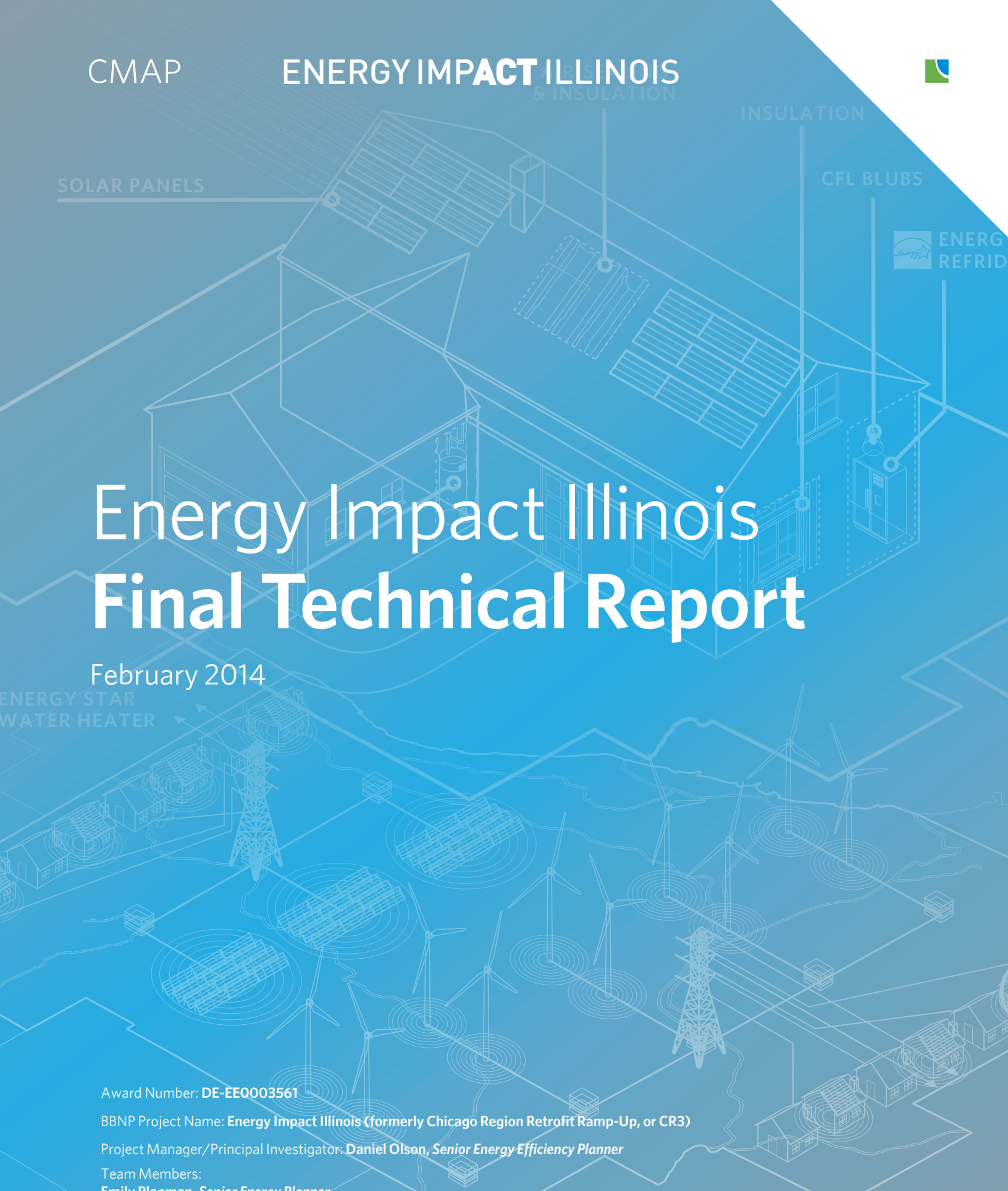
CMAP ENERGY IMPACT ILLINOIS



Energy Impact Illinois
Final Technical Report

February 2014

Award Number: **DE-EE0003561**

BBNP Project Name: **Energy Impact Illinois (formerly Chicago Region Retrofit Ramp-Up, or CR3)**

Project Manager/Principal Investigator: **Daniel Olson**, ***Senior Energy Efficiency Planner***

Team Members:
Emily Plagman, ***Senior Energy Planner***
Joey-Lin Silberhorn, ***Energy Efficiency Program Assistant***

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Executive Summary

Energy Impact Illinois (EI2) is an alliance of government organizations, nonprofits, and regional utility companies led by the Chicago Metropolitan Agency for Planning (CMAP) that is dedicated to helping communities in the Chicago metropolitan area become more energy efficient. Originally organized as the Chicago Region Retrofit Ramp-Up (CR3), EI2 became part of the nationwide Better Buildings Neighborhood Program (BBNP) in May 2010 after receiving a $25 million award from the U.S. Department of Energy (DOE) authorized through the American Recovery and Reinvestment Act of 2009 (ARRA). The program's primary goal was to fund initiatives that mitigate barriers to energy efficiency retrofitting activities across residential, multifamily, and commercial building sectors in the seven-county CMAP region and to help to build a sustainable energy efficiency marketplace.

Over the past three years, EI2 has built and facilitated an energy efficiency alliance in the Chicago region that has achieved significant results. Through single-family, multifamily, and commercial/nonprofit financing and incentive programs, the program has cumulatively reduced energy usage among participants by an estimated 4 million kilowatt hours (kWh) and 2 million therms of natural gas, or a total of 211,000 million British Thermal Units (MMBtus) annually. These activities have led to an annual reduction of 10,855 metric tons in carbon dioxide (CO_2) emitted in the Chicago region – the equivalent of taking 2,261 automobiles off the road. The cumulative annual estimated energy cost savings for all EI2 program participants is $2.3 million.

These results are only part of the larger economic impact of the program. For the $10.1 million in EI2 funds directly spent on the finance and incentive programs of the grant, EI2 was able to leverage and invest an additional amount of $15.9 million from multiple sources, including utility energy efficiency incentive funds, private homeowner and building owner investment, broader private-sector equity from regional finance institutions, and in-kind programmatic and administrative billable hours from EI2's subgrantees. This amount of leverage nearly doubled the impact of the original grant funds. In addition, particularly in the commercial sector – an area that had some of the more difficult challenges in investing EI2 funds – the program was able to reassign these resources in its final year to make a strong impact on future retrofit work being done in the region. Through parallel commercial sector efforts, PositivEnergy's Commercial Retrofit Gateway Services "Road Map" effort along with SCIenergy's Commercial Technical Assistance program reviewed over 23 million square feet of commercial space in the Chicago region, identifying and prioritizing $50.2 million in near-term retrofitting projects in the region after utility incentives are included.

The EI2 Final Technical Report provides a detailed review of the strategies, implementation methods, challenges, lessons learned, and final results of the EI2 program during the initial grant period from 2010-13. During the program period, EI2 successfully increased direct retrofit activity in the region and was able to make a broader impact on the energy efficiency market in the Chicago region. As the period of performance for the initial grant comes to an end, EI2's

legacy raises the bar for the region in terms of helping homeowners and building owners to take action on the continually complex issue of energy efficiency.

Final Technical Report

Grant Background

In October 2009, the Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE) released a Funding Opportunity Announcement (DE-FOA-0000148) as part of the competitive portion of the Energy Efficiency Block Grant (EECBG) Program. The Program, authorized in Title V, Subtitle E of the Energy Independence and Security Act (EISA) and signed into law on December 19, 2007, was first funded through the American Reinvestment and Recovery Act (ARRA) through a competitive grant process at a level of $453.72 million. The stated purpose of the EECBG Program, which would later become the Better Buildings Neighborhood Program (BBNP), was to serve as a deployment mechanism for energy efficiency, conservation, and renewable energy technologies and to assist eligible entities to create and implement strategies to:

- Reduce fossil fuel emissions in a manner that is environmentally sustainable and, to the fullest extent practicable, maximizes benefits for local and regional communities.
- Reduce the total energy use of the eligible entities.
- Improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors.
- Create and retain jobs.
- Stimulate the economy.

Between 2007-09, there were a series of research reports[1,2] and recommendations in the Chicago region focused on energy efficiency, including the 2008 Chicago Climate Action Plan[3] (CCAP) developed through the Chicago Mayor's Office. CMAP reviewed much of this research and where applicable incorporated it into the preparation of its GO TO 2040 comprehensive regional plan for the seven-county Chicago region, adopted in October 2010. In doing so, GO TO 2040 identified managing and conserving energy resources as one of its top strategy recommendations in achieving the goals laid out in the plan's "Livable Communities" theme.

Following the Funding Opportunity Announcement (FOA), CMAP consulted with a number of the stakeholders involved with this recent research group that formed what became known as

[1] City of Chicago, Department of Environmental, *Chicago Climate Action Plan*, http://www.chicagoclimateaction.org/filebin/pdf/finalreport/CCAPREPORTFINALv2.pdf, (September 2008).

[2] Center for Neighborhood Technology (CNT Energy), *Creating a Chicago Regional Building Energy Efficiency System*, http://www.urban.illinois.edu/courses/UP456/Readings/Energy/F12/Creating%20a%20%20Chicago%20Regional%20Building%20Energy%20Efficiency%20System.pdf, (December, 2009).

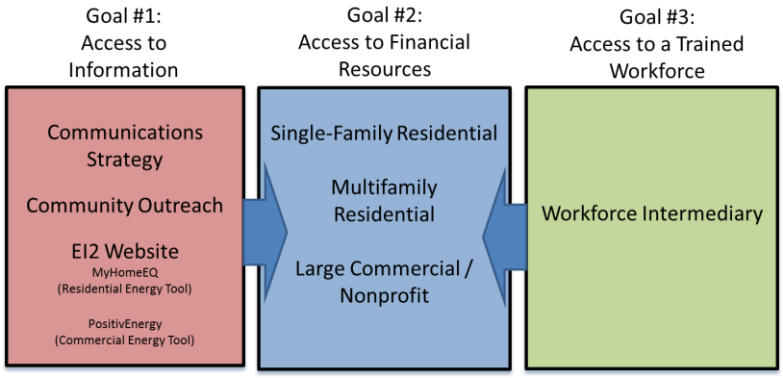
[3] Katzenbach Partners, *Chicago Retrofit Strategy Final Report*, http://www.chicagoclimateaction.org/filebin/pdf/KatzenbachRetrofitFinalReport.pdf, (January 8, 2010).

the **Energy Impact Illinois (EI2) Retrofit Steering Committee** for the duration of the grant, and included representatives from:

- CMAP
- City of Chicago
- City of Rockford
- Citizens Utility Board (CUB)
- Regional utilities
    - Electric - Commonwealth Edison (ComEd)
    - Natural Gas – Nicor Gas, Peoples and Northshore Gas
- Illinois Department of Commerce and Economic Opportunity (DCEO)
- Illinois Science and Technology Coalition (ISTC)

In December 2009, as a result of the steering committee guidance, CMAP formally partnered with the City of Chicago and the City of Rockford in submitting a proposal for the EI2 program.[4] On May 19, 2010 DOE awarded $25 million of the competitive EECBG funds to CMAP.

Following the award, CMAP began implementing the program as specified in the grant proposal. The main goal of the program was to facilitate the transition of a fragmented retrofit market to a fully developed, comprehensive market. EI2 would also provide buildings owners with the information they needed to make rational decisions about improving energy efficiency in their homes and businesses. Financial products were to be readily available to facilitate the installation of selected measures and suppliers would respond to consumer demand for retrofits with consistent, efficient, and affordable solutions. The program focused on three overarching goals that addressed key barriers to energy efficiency market transformation:



CMAP began program implementation by hiring additional staff as well as procuring and contracting with the Center for Neighborhood Technology - Energy, or CNT Energy, to serve as

[4] Originally named Chicago Retrofit Ramp-Up or CR3.

the implementation agency for the program. Over the course of the first year, an additional 14 subgrantee contracts were developed to administer and oversee all aspects of the program including:

- A consumer communications and community outreach strategy
- An energy efficiency web portal with online informational tools
- Retrofit financing programs focused on the residential, multifamily, and commercial building sectors
- A knowledgeable and trained retrofitting workforce to provide services

EI2 officially launched on November 1, 2011, and all $25 million of the grant funds were deemed "obligated" per DOE requirements.

The following sections provide detail into the program's primary components, including a review of CNT Energy and its role as implementation agency, discussions of the non-financing programs that were part of EI2 and their roles in supporting the rest of the program, and detailed review of EI2's financing programs for the single-family residential, multifamily residential, and commercial building sectors.

Implementation Agency: Center for Neighborhood Technology - Energy

In preparing the grant application, CMAP decided that the breadth and scope of the proposed work required an implementation agency to help in the project management and coordination of the program, including the oversight of the program's 14 other subgrantees. The implementation agency needed to have a strong commitment to delivering high-quality services and products to help achieve the overall program goal of transforming the energy efficiency retrofit market and assuring that information and financing products were made available to all building sectors across the region.

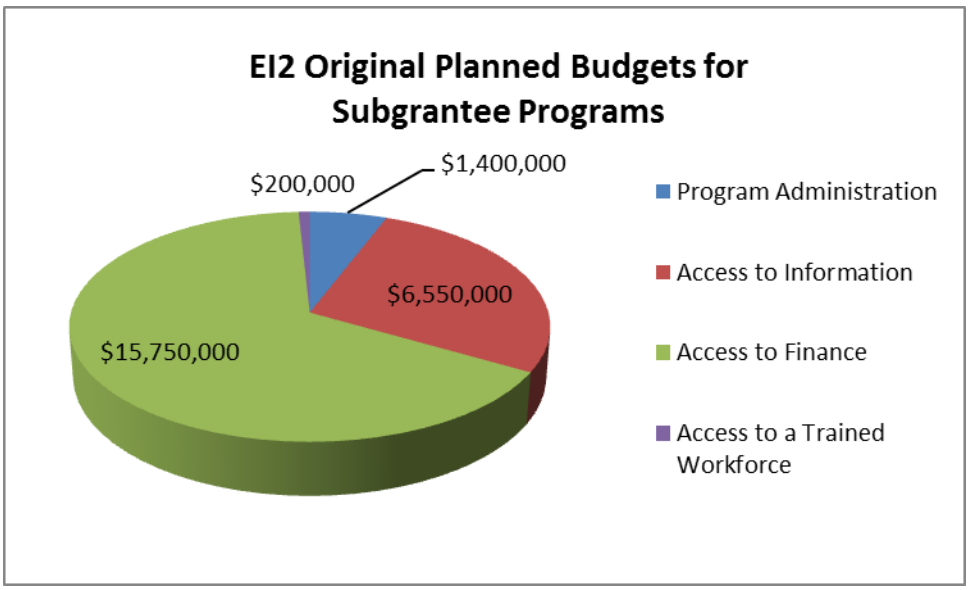
In August 2010, CMAP issued a Request for Proposal (RFP) for an implementation agency and vetted five organizations. In October 2010, CNT Energy, a division of the Center for Neighborhood Technology, was selected as the implementation agency for the program. CNT Energy is a local nonprofit with extensive experience in energy efficiency and program management, including the subject areas of dynamic electricity pricing, building performance, and regional energy planning.

RFP Development and Subgrantee Selection

CNT Energy's first and foremost responsibility was to help develop a grant implementation plan and facilitate the RFP process to bring on board the remaining subgrantees. The implementation agency helped develop, write, and vet program-appropriate RFPs addressing EI2's main programmatic strategies: Access to Information, Access to Finance, and Access to a Trained Workforce. The following Figure 1 displays the original intended subgrantee programs and budgets for the EI2 grant.

Figure 1: Energy Impact Illinois – Original Planned Budgets for Subgrantee Programs

Energy Impact Illinois - Original Planned Budgets for Subgrantee Programs			
Program Adminstration	Implementation Agency	$	1,400,000
Access to Information	Regional Webportal / Information System	$	1,500,000
	Energy Audit Tools	$	1,000,000
	Communications / Marketing	$	3,050,000
	Community-Based Outreach	$	1,000,000
Access to Financing	Multi-Family Low-Income Loan	$	1,250,000
	Multi-Family Loan Loss Reserve	$	1,500,000
	Employer Assisted Housing Retrofit Program	$	500,000
	Single Family Green Loan Program	$	2,000,000
	Commercial/Industrial Loan Loss Reserve	$	10,000,000
	Energy Efficiency Rating Incentive Financing	$	500,000
Access to Workforce	Workforce Intermediary	$	200,000
	Total	$	23,900,000



The RFP process for selecting EI2 subgrantees relied on Retrofit Steering Committee participation and was conducted in four phases, with each subgrantee procurement process involving a roughly four-month competitive bidding schedule that followed both federal and internal CMAP guidelines. Multiple procurements were issued in each phase and in general included the following steps:

- RFP development and draft review
- Issuance of RFP to public (usually one month response deadline)
- Pre-bid meeting
- Proposal deadline
- Team review and scoring
- Finalist interviews and subgrantee selection
- CMAP Board approval
- Contract development and signature

EI2 requested respondents propose strong and innovative solutions to the barriers facing the energy efficiency marketplace. The program received a good deal of responses, but it is worth noting – particularly with the finance programs – that many of the larger, national financial firms that had originally expressed interest in the program did not end up submitting proposals. All but one RFP was successfully procured within a year's time and the single-family financing program was re-bid because the original awardee, AFC First, was unable to secure a committed funding source to make residential energy efficiency loans.

In following with the experimental spirit of the BBNP, a small set of awards were split because of equally strong proposals that varied in their approach. This included splitting EI2's commercial program into one that focused on larger commercial/industrial buildings (SCIenergy) and one that had a pre-existing nonprofit energy efficiency program for local nonprofit agencies (IFF). Similarly, EI2's online Building Energy Tool procurement selected

contractors to build separate residential (MyHomeEQ) and commercial (EnCompass) products. In addition, EI2's smaller multifamily low-income loan program was issued as an Invitation to Participate (ITP), with two applicants, the Village of Oak Park and the City of Chicago, successfully submitting viable project proposals.

As stated previously, by November 2011, all subgrantee procurements had been finalized, and the EI2 grant funds were considered fully obligated per DOE requirements. Two additional procurement changes occurred following this initial obligation: 1) Shaw Environmental and Delta Institute were brought on in a separate administrative capacity to conduct compliance oversight due to two potential conflicts of interest with other subgrantees performing work on the grant, and 2) the original budget for community-based outreach was deemed to fit within the scope of FleishmanHillard's broader communications strategy, and was utilized to expand the community outreach campaign later in the grant. Figure 2 below shows the original subgrantee awards for EI2 and their contract obligation dates.

Figure 2: EI2 Original Subgrantee Awards

Program	EI2 Role	Proposed	Date of Obligation	DUNS Number
CMAP Budget	Grantee	$ 1,070,686	5/18/2010	068587112
CNT Energy	Implementation Agency	$ 1,400,000	11/19/2010	013444591
Fleishman Hillard	Communications / Marketing	$ 4,050,000	12/23/2010	064622863
C3 (previously Efficiency 2.0)	Regional Webportal / Information System	$ 1,500,000	2/23/2011	963026880
Community Investment Corporation (Energy Savers)	Multi-Family Loan Loss Reserve	$ 1,500,000	3/2/2011	082552407
Metropolitan Planning Council (MPC)	Employer Assisted Housing Retrofit Program	$ 500,000	3/14/2011	067453316
Village of Oak Park	Multi-Family Low-Income Loan (1)	$ 150,000	3/25/2011	020947966
Centers for New Horizons (Workforce Intermediary)	Workforce Intermediary	$ 200,000	5/6/2011	070239777
City of Chicago	Multi-Family Low-Income Loan (2)	$ 1,100,000	5/27/2011	071000013
IFF	Commercial/Industrial Loan Loss Reserve (1)	$ 1,000,000	5/31/2011	825691496
SCIenergy (previously Transcend Equity)	Commercial/Industrial Loan Loss Reserve (2)	$ 9,000,000	7/1/2011	148233682
MyHomeEQ - Residential	Energy Audit Tools (1)	$ 400,000	7/25/2011	968904347
PositivEnergy Practice - Commercial	Energy Audit Tools (2)	$ 600,000	7/25/2011	962644881
Priority Energy	Energy Efficiency Rating Incentive Financing	$ 500,000	8/25/2011	831290940
Delta Institute	Single Family Green Loan Program (rebid)	$ 2,000,000	9/27/2011	023111185
Shaw Environmental	Administrative Oversight	$ 19,990	10/31/2011	109514559
Delta Institute (IFF Oversight)	Administrative Oversight	$ 9,324	7/27/2012	023111185
	TOTAL	$ 25,000,000		

Program Management: Access to Information

Consumer access to proper information was deemed a critical barrier to energy efficiency adoption and retrofit work in the Chicago marketplace prior to the funding of EI2. As part of its overall implementation role, CNT Energy assisted with the following:

Communications Strategy and Outreach

One of the first informational RFPs involved working closely with FleishmanHillard (FH), who was selected in December 2010 to lead the program's communications strategy. CNT Energy worked with FH on customer market segmentation research, including oversight of consumer

focus groups in the Chicago region to help inform EI2's branding and marketing strategy, providing input and feedback as needed, and helped coordinate meetings with the local utilities.

CNT Energy also worked with FH in the shaping of the materials, for both paid and earned media components. Along with CMAP, CNT Energy provided feedback on the scripts and casting for the "Energy Bills" media campaign, a marketing and advertising campaign that targeted print, TV, and radio during late 2011 and early 2012. They additionally ensured that the residential loan program details were integrated into the communications strategy and that partners were supplied with "Energy Bills" materials to include with bank advertising documents and flyers.

Following the program's initial marketing push, EI2's community outreach strategy, which was originally going to be a separate RFP/program, was moved under FH's scope. By summer 2012, FH, in coordination with CNT, hired 20 field organizer staff (FOs) through this effort. CNT Energy also had a prime responsibility in defining the outreach staff's responsibilities and outreach techniques, bringing in retail partners, and providing day-to-day management and direction for the field organizer staff. The outreach approach, which became known as the Energy Impact "house party" model, required the development of tool kits for each of the FOs, who were then trained on the EI2 program offerings and messaging. CNT worked with FH to create materials such as brochures, window clings, yard signs, and posters for their presentations. This outreach campaign ultimately directed homeowners to call the 1-855-9-IMPACT phone number, which had been launched in the fall of 2011 to support the overall EI2 program, instead of going to the EI2 website. The overall improvement to EI2 outreach greatly increased the rate of retrofit assessment and completion and was one of the program's larger successes.

EI2 Website and Building Energy Tools

Efficiency 2.0 (E2.0), which later became C3, was selected to help design and implement the website for the EI2 program that launched on June 1, 2011. CNT Energy coordinated with E2.0, the local utilities, and FH to develop and refine the website's look and feel and begin incorporating the various programs, incentive offerings, and marketing/brand looks into the website content.

Organization of content for all areas of the website, including the retrofit process, financing tools, media-related items developed by FH, and general energy efficiency information was the prime responsibility of CNT Energy. Midway through the grant period, EI2's other informational deliverables (the residential and commercial building energy tool modules for MyHomeEQ and EnCompass), were also integrated into the website, with changing functionality and content continually updated during subsequent months. Lastly, CNT Energy helped refine the list of participating contractors for the single-family residential program, and its integration as part of a searchable database within the EI2 website.

As the main effort behind the EI2 website subsided, CNT Energy coordinated with E2.0/C3 to receive documentation and training for the website content management system (CMS) and has taken over management of the site since April 2013.

Program Management: Access to Finance

As implementation agency for EI2, CNT Energy also served a vital role as lead liaison for all financial program subgrantees. They worked directly with subgrantees on program design, set-up, and implementation to assure that program benchmarks were met and provided the technical expertise, policy guidance, and general oversight to assure that EI2's financing programs were viable and that participation was optimized. For all of the financing programs, which covered the single family, multifamily, and commercial/nonprofit sectors, CNT Energy participated in monthly check in meetings, provided input where needed for contract and programmatic changes, instituted and ensured that federal requirements of the grant were received and understood by subgrantees, and managed reporting of all retrofit activity conducted through subgrantees programs.

Single and Multifamily Residential Programs

The Delta Residential Retrofit program, the Rockford Residential Rebates pilot program, and the Employer-Assisted Housing Retrofit (EAHR) pilot program were developed for single-family homeowners of one to four units and administered by the Delta Institute, Priority Energy, and the Metropolitan Planning Council (MPC), respectively.

CNT Energy helped develop the loan loss reserve (LLR) model that the program would be based on and worked with the Delta Institute over the course of the grant period to facilitate uptake in the loan program and make revisions as needed. This became particularly important as the program re-appropriated financing funds toward rebate incentives in the summer of 2012. The process required extensive negotiations, including discussions with local utilities and their energy efficiency program implementers, development of MOUs between our partner programs, and ongoing programmatic cooperation as finer details of each program were adjusted over time.

CNT Energy also worked with Priority Energy to implement the Rockford Residential Rebate pilot program, which underwent a major revision in the summer of 2012. Redesigned in part by CNT Energy, the program built upon its original "tiered" rebate incentive goal to develop a deep-retrofit model, one which delivered at least a 30 percent savings requirement (double DOE's required 15 percent), and resulted in deeper retrofits, greater incentives, and the program exceeding its initial retrofit goal by nearly double.

The MPC program was a short-lived pilot and was not able to bring large employers to the program. CNT Energy was involved with the program setup and compliance, but because of the early completion of this program, did not continue administrative oversight efforts with this subgrantee.

Within EI2's multifamily programs, CNT Energy was a subcontractor to the Energy Savers program, EI2's primary multifamily program. Because of this, general administrative oversight and compliance was contracted to Shaw Environmental. However, CNT Energy performed necessary technical assistance, Davis Bacon Act compliance, and oversight functions on the pilot Multiunit Retrofit Improvement Loan (MURIL) programs as with the Village of Oak Park and the City of Chicago.

Commercial/Industrial and Nonprofit Programs

EI2 created two programs in the commercial sector – the Commercial and Industrial (C&I) Retrofit program administered by SCIenergy (formerly Transcend Equity), and the Commercial Nonprofit Retrofit Program, administered by IFF. For both programs, CNT Energy worked on the RFPs, conducted due diligence and reference checks, and helped develop the contracts for both programs.

CNT Energy connected SCIenergy to multiple relevant contacts in the region to increase interest in the Managed Energy Services Agreement (MESA) model offered. After multiple years of non-committal leads in the commercial sector, CNT Energy strategized with CMAP and DOE on how best to reallocate $8 million of SCIenergy's original commercial LLR to other, more successful areas of the program. During this process, a large majority of those funds were determined to be more useful elsewhere in the EI2 program, however CNT Energy helped develop an agreement to utilize the remaining C&I funds ($1 million) in the LLR to funding pre-development work that offered technical assistance to selection of the most promising large commercial buildings already working with SCIenergy.

For the IFF program, CNT Energy worked to develop incentives to increase uptake in the loan programs and match the incentives with projects. They also partnered with IFF to offer reduced cost audits to houses of worship which led to it recusing itself from its monitoring and oversight role for the relevant portions of the grant – an administrative responsibility contracted to the Delta Institute.

Program Management: Access to Trained Workforce

Workforce development was an important area of emphasis for the EI2 program and included the development of standards for contractors to receive EI2 certification, recruitment of new employees, and provision of ongoing support for EI2-enrolled contractors. CNT Energy initially worked with its internal subcontracting partners, the Chicago Jobs Council (CJC) and Midwest Energy Efficiency Alliance (MEEA), and later with workforce subgrantee Centers for New Horizons (CNH) to develop the workforce component of the program on contractor recruitment and application support.

Centers for New Horizons

CNT Energy worked with CNH and CJC to identify existing training and related resources in the region and held roundtables to get input from key stakeholders. The original intent of the program had been to help recently graduated trainees to find placement in the retrofit field but due to a slow beginning to the single family retrofit program, there was little demand from employers. As a result, CNT Energy and its subcontractor MEEA recommended changes to the scope of work for CNH to help support efforts to enroll new contractors into the EI2 program by assisting them with paperwork or questions and following up with contractors who had expressed interest but had not taken any further steps in participating. Because of the extensive uptick in retrofits seen in the latter half of the program, CNT Energy became extensively involved with coordinating workforce efforts. In December 2012, CNT Energy provided input on the development of a final phase of the CNH contract, shifting its scope to support existing participating contractors in the EI2 network, assessing their capacity needs, and pairing them with a qualified workforce.

For existing contractors, CNT Energy developed a participating contractor agreement, quality assurance (QA/QC) plan, and the process for enrolling contractors into EI2. They hired a manager to oversee the QA/QC work, which consisted of conducting onsite visits to the first five projects completed, followed by four of the next 20, and 5 percent of all jobs after that. EI2 later created a contractor coordination team that was responsible for sending newsletters with updates to contractors, performance evaluations, and served as a main point of contract for all contractors. For the nonresidential programs, CNT Energy had additional staff involved with reviewing and following up on nearly all completed projects.

Additionally, the team held training sessions in sales and marketing, educated the contractors on the program offerings and any changes, held check-in meetings in person and on the phone, and tracked capacity for contractors as the rebate portion of the single-family residential program came to an end. MyHomeEQ, the online single-family energy assessment tool, was further modified to allow for contractors to report work in a unified fashion.

General Program Implementation, Compliance, and Reporting

In addition to its program development work, CNT Energy managed the day-to-day operations and reporting requirements for most of the EI2 programs. Over time, CNT Energy also shaped the programmatic adjustments, long-term implementation plan, and extensions that became part of the grant.

Upon commencement of a subgrantee contract, CNT Energy along with its subcontractor Shaw Environmental communicated to each subgrantee their risk assessment and monitoring plans, DOE grant guidelines, and the reporting requirements that captured performance, financial information, and retrofit data. CNT/Shaw also regularly performed desk audits with subgrantees over the course of the performance period and, when necessary, issued corrective actions memos (CARs) to subgrantees requiring action on behalf of the subgrantee to work towards developing plans to maintain their contractual obligations.

In addition to its overall compliance role, CNT Energy was the primary aggregator and reviewer of all of EI2's retrofit-related reporting for monthly and quarterly reports. Besides the individually required monthly reports, each quarter CNT Energy worked with all subgrantees to compile and enter relevant retrofit, energy savings, and jobs data, and produced both the ARRA-related report sent to FederalReporting.gov as well as the DOE-required quarterly reporting documents uploaded to the Better Buildings Information System (BBIS). CNT Energy staff also helped perform subsequent reporting corrections as necessary.

CNT Energy remains on contract with CMAP through the end of the grant extension in November 2014, and will continue its implementation role with EI2 in a reduced capacity. They will oversee the remaining finance subgrantee programs, continue maintenance and administration of a number of the informational resources that were originally put forth by EI2, and coordinate any residual contractor and/or workforce issues that may arise as the program moves into its downsized role.

Key Accomplishments

Task 1.0: Implement Regional Information Systems

SUBTASK 1.1: Identify subgrantees through RFP process.

GOALS ACHIEVED: RFPs were drafted and awarded to the following subgrantees:

- FleishmanHillard: Communications strategy, marketing, and community outreach
- Efficiency 2.0 (now C3): Develop and implement the EI2 website
- MyHomeEQ: Develop and implement residential online energy tool
- PostivEnergy Practice: Develop and implement commercial online energy tool

SUBTASK 1.4: **Implement outreach strategies.**

Develop strategies to conduct direct outreach via trusted messengers (e.g., community-based outreach) to engage building owners in retrofit activities in regional communities building upon existing whole neighborhood outreach models, such as the Energy Action Network.
GOALS ACHIEVED: A significant, regionally-recognized community outreach effort was developed, which included the following efforts:

- In July 2012, 20 Field Organizer outreach staff hired to implement the "house party model" which consisted of 2-hour presentation and energy assessment. Homeowners agreeing to host house parties received the assessment for free. Outreach design and strategy led by CNT Energy.
- Between August 2012 and August 2013, completed the following outreach goals:

Outreach Activity	As of 9/30/2013
One-on-One Meetings	1,492
Community Meetings	1,006
House Parties Held	652
Audits Signed Up For	6,175
Audits Completed	3,034
Retrofits Completed	1,692
Volunteers	285

- Generated grassroots media opportunities for EI2, including appearances, discussions, and written articles featured on:
  - WTTW (PBS) Chicago Tonight
  - WBEZ
  - WREX
  - CAN TV21
  - Chicago Tribune
  - The Rockford Register Star
  - Multiple local news and cable outlets
  - Grist.org
  - Mr. Fix-It Lou Manfredini Radio Show
  - WCPT Mighty House Radio Show

- 285 volunteers recruited for continuing involvement with EI2's single-family residential program.
  - The City of Rockford, in coordination with outreach efforts through Centers for New Horizons:
    - Canvassed all 14 wards in the City with EI2 program information
    - Distributed over 50,000 water bill inserts promoting the program

    - Staffed an EI2 table at the March 2013 Rockford Home Show

- The call center (1-855-9-IMPACT), also launched on June 1, 2011, was implemented to manage retrofit-related questions and in the third quarter of 2012 became the primary call to action for EI2 as well as the City of Chicago's Residential "Retrofit Chicago" program. This proved a more successful tool for homeowners than online information because it helped connect homeowners to contractors, assisted with any questions about the EI2 program, and performed follow up calls throughout the process to help encourage customers to complete retrofit work. Some high-level metrics achieved include:
    - Customers spoken with: 4655
    - Referrals to contractors: 1750
    - Top three "how heard" categories generating calls (not mutually exclusive):
        - Community Meeting: 2610
        - EI2 Outreach Staff: 2357

Task 2.0 Implement Financial Tools

SUBTASK 2.1: Identify partners through RFP process.

The CR3 team will develop an RFP for each of the financing programs. CMAP will administer the financial product programs directly in consultation with the Retrofit Steering Committee.

GOALS ACHIEVED: RFPs were developed and awarded to the following subgrantees:

- Multifamily programs
    - Community Investment Corporation/Energy Savers
    - Village of Oak Park
    - City of Chicago
- Single-family programs
    - Delta Institute
    - Metropolitan Planning Council (Employer-assisted housing retrofits)
    - Priority Energy (Rockford Residential Rebate)
- Commercial and Nonprofit programs
    - SCIenergy (commercial, originally Transcend)
    - IFF (nonprofit)

Task 3.0 Implement Workforce Intermediary

SUBTASK 3.1: Identify partners through RFP process

The CR3 team will develop an RFP for a workforce intermediary and select partners through a competitive process.

GOALS ACHIEVED: An RFP was developed and awarded to the following subgrantee:

- Centers for New Horizons to serve as workforce intermediary

SUBTASK 3.3: Workforce integration
Implementation agency, in conjunction with CMAP and Retrofit Steering Committee, will assure integration of parallel workforce initiatives into the EI2 program.
GOALS ACHIEVED: Contractor coordination team developed within CNT Energy

- **CNT Energy's Contractor Coordination:** EI2 recognized the need to streamline and improve communication with participating contractors, particularly as the new residential program offerings and outreach efforts were launched. EI2, through staff at CNT Energy, implemented a contractor coordination team to be a single point of contact for contractors. This team evaluated and communicated programmatic updates, conducted QA/QC, held information webinars and meetings to improve work quality and sales objective, and conducted regular one-on-one meetings with each contractor to improve consistency and quality of the EI2-funded retrofit work. The team worked closely with the outreach team to ensure their efforts to enlist homeowners aligned with contractors' abilities to perform high-quality work in a timely manner. CNT Energy's efforts included:

    - Total phones calls with contractors: 4280
    - Total emails with contractors: 7220
    - Total weatherization contractors active by end of program: 23
    - Total HVAC contractors active by end of program: 19

<u>Task 4.0 Project Management and Reporting</u>
SUBTASK 4.1: Management and reporting approach.
Project staff will track outcomes, outputs and expenditures and insure the project is attaining goals and objectives within the projected timeline, making adjustments with DOE approval, as necessary.
GOALS ACHIEVED: CMAP contracted with CNT Energy as implementation agency to effectively manage and ensure compliance with EI2 grant award:

- Developed and finalized a grant implementation and spend plan. Periodically updated and adjusted as necessary to make sure EI2 funds were being spent on time and in compliance with grant requirements.

- Worked to develop a risk assessment, compliance, and monitoring plan for all subgrantees to utilize for the duration of the program.

- Completed routine desk audits for all subgrantees with active portfolios; in situations where CNT Energy was an active subcontractors, onsite reviews were performed by CMAP staff or their separately subcontracted firms, Shaw Environmental and Delta Institute.

- Reviewed all projects subject to additional reporting requirements like Davis-Bacon Act, historic preservation, and National Environmental Policy Act requirements.

    - Coordinated and facilitated meetings as necessary with all relevant subgrantees/stakeholders to develop and implement programs.

    - Developed reference and report documentation as necessary for DOE, CMAP, and Retrofit Steering Committee staff.

SUBTASK 4.2: Delivery of expected outcomes.
Reports and other deliverables will be provided in accordance with the Federal Assistance Reporting Checklist following the instructions included therein.
GOALS ACHIEVED: All ARRA and DOE reports were submitted quarterly and on time:

- CNT Energy worked with all EI2 subprograms to effectively and expeditiously load ARRA and DOE-required reporting monthly and quarterly for the duration of the grant.

SUBTASK 4.3: Delivery of additional deliverables.
As directed by DOE, several team members will attend Retrofit Ramp-Up workshops in Washington, DC, twice annually throughout the grant period (estimated at six workshops total).
GOALS ACHIEVED: EI2 staff attended all DOE-required conferences in addition to several industry-specific conferences during the grant:

- EI2 staff attended the following conferences:
    - DOE training in Washington, DC
    - DOE workshops and Clean Energy Roadshow held in Chicago
    - DOE finance program trainings in Golden, CO
    - Better Buildings sharing meeting in New York, NY
    - Better Buildings workshop in Los Angeles, CA
    - Better Buildings workshop in Burlington, VT
    - Better Buildings workshop in Washington, DC
    - ACEEE Summer Study in Monterrey, CA
    - Better Buildings closeout workshop and ACI conference in Denver, CO

- Additionally, EI2 presented at the following conferences/conference calls:
    - "One-Stop Shop for Energy Efficiency" for Yale Center for Business and the Environment's "Blueprint for Efficiency" series in February 2011
    - "CRIBB Overview" for USGBC Chicago Chapter, March 2011
    - "Overview of Business Solutions from Energy Impact Illinois" – ComEd Energy Efficiency Expo – July 2011

- "A Regional Approach to Energy Efficiency" for Chicago Green Collar Jobs Initiative conference, April 2012
- Presentation on Energy Savers Multifamily Program at Washington, DC Better Buildings Conference, July 2012

Challenges and Lessons Learned

Finding and contracting with an implementation agency was a necessary component for building and ramping up such a large program in a short amount of time following the grant award. CNT Energy, given its extensive expertise in the energy efficiency field and history of running other programs in the region, served as an invaluable partner in shaping and implementing the EI2 program. The agency and their staff have focused a tremendous amount of work and time into the program, including almost $1.2 million of in-kind funding to the effort. Much of EI2's overall success lies with the knowledgeable and dedicated staff that continued to vet solutions for a program with consistently changing conditions on the ground.

Like every program, there were also challenges with adopting an implementation agency model.

- *Program Implementation*: CNT Energy's role as program implementer often came into conflict with its interests in applying as a subcontractor to some of EI2's other sub programs – specifically the multifamily program, the creation of the single-family online web tool, and a portion of the non-profit program. While all appropriate steps were taken to recuse them from any oversight that would generate conflicts of interest, the amount of monitoring they were contracted for to conduct by the end of the grant was less than originally planned for.

    - *Lesson Learned*: A contract between the prime awardee and a subgrantee brought on as implementation agency should require limiting the implementation agency's ability to recuse itself from its primary oversight and compliance responsibilities, as applied for in the response to the original RFP.

- *Compliance and Reporting:* While the management of the grantees on a daily basis was conducted by CNT, the onus to appropriately report and meet the program metrics fell on CMAP. This separation of responsibilities led to administrative challenges at times. Specifically, while CNT Energy collected all the federal retrofit reporting requirements – including audit and actual work done, energy savings, and jobs created, directly from subgrantees – CMAP managed much of the financial tracking and grant drawdown responsibilities. This sometimes led to duplicative reporting requested of the subgrantees by both agencies.

- *Lesson Learned*: Staff from both the main grantee and subgrantee implementation agencies should develop a shared system to track funding flows and retrofit processes more closely and in real-time.

- *Reporting Tools*: CNT Energy originally hired Shaw to create an online database system that later proved inadequate for data collection and cumbersome to use, and was ultimately discontinued.

    - *Lesson Learned*: Determine and finalize early on in grant process the required report-outs for the larger federal program. The onus for this lies on all involved parties, including DOE.

- *Communications Strategy:* The split role between the marketing team's responsibilities at FH, the website development at E2.0, and CNT's role as communications experts in the energy efficiency field led to disagreements on the strategic direction on how to best market the program, creating inefficiencies in communications development and dissemination. In certain areas of the EI2 grant, CNT Energy became over-involved in an area in which EI2 had felt it had hired experts.

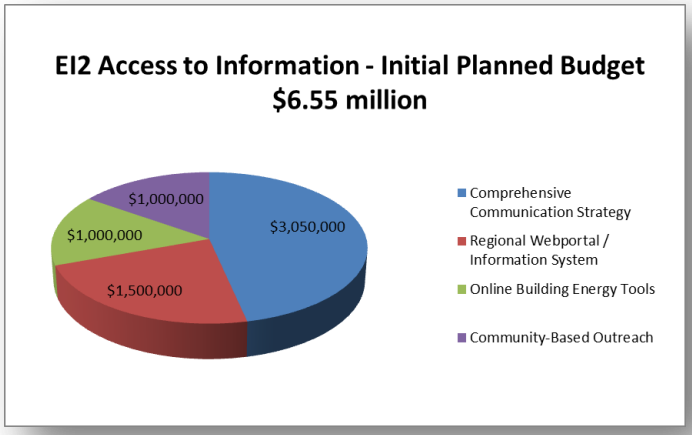
    - *Lesson Learned*: Energy, website, and marketing experts have different views on how to best communicate with a target audience and can lead to conflicts at times. A streamlined communications approach or single contracting structure with an agency as the lead contact would provide a clear chain of command, reducing inefficiencies in the communications process.

- *Financing Programs:* CNT Energy's initial proposal included strategic support to be provided by energy-related experts in the workforce, finance, and communications sector. Early in the grant, the finance expert was released by CNT Energy and never replaced. While CNT Energy ultimately assigned the program manger to this role, CMAP would have preferred that staff levels matched those presented in the response to the implementation agency RFP.

    - *Lesson Learned*: Field experts identified within the RFP should have been provided in order to maintain proper division of tasks and the expected level of expertise originally proposed in the response to the RFP.

Addressing Access to Information

One of the greatest barriers to energy efficiency adoption is the lack of consumer information to support market activities. Nontechnical consumers must identify what an energy efficiency retrofit is, how it might apply to their specific situation, and navigate the process to obtain one. In most cases, the availability of energy efficiency programs and services within the Chicago region is as variable as it is nationally.



EI2 devoted a significant part of the grant to addressing this barrier. As part of the $25 million grant, EI2 allocated $6.55 million to four separate informational activities:

- Comprehensive Communication Strategy (including Community-Based Outreach)
- EI2 Information System and Website
- Online Building Energy Tools (Residential – MyHomeEQ)
- Online Building Energy Tool (Commercial – EnCompass)

This section provides a detailed look into the progress that was made in addressing access to information over the course of the EI2 grant.

EI2 Comprehensive Communications Strategy

EI2 implemented a holistic approach that consisted of consumer research, branding, marketing and community-based outreach strategies to raise awareness of energy efficiency in the Chicago region. The main purpose of this effort included:

- Identifying and targeting the programs most likely program participants.
- Developing a recognizable energy efficiency brand.
- Conducting targeted marketing and outreach campaigns that create greater consumer awareness and help transform the region's energy efficiency market into a self-sustaining model.
- Effectively communicate EI2 programs and goals across multiple platforms including print, radio, TV, and social media.
- Incorporating the research, branding, and marketing efforts into a large-scale, community-based outreach campaign.

In December 2010, following a competitive RFP process, a partner consortium led by FleishmanHillard (FH) was selected as a subgrantee to help CMAP build its communications strategy. The team was also comprised of advertising agency Fathom Communications, research firm Booz & Co., and ethnographic researchers from the Chicago Field Museum to help build the foundation for success.

Consumer Research and Segmentation Study

Given the sheer size of the Chicagoland region, both geographically and in population, EI2 faced a unique set of challenges that required rigorous research into how the program could expeditiously expend limited programmatic funds and structure its financing programs, particularly those focused on single-family, toward reaching those consumers that were most likely to drive demand.

As part of the communications team, Booz & Company conducted an in-depth research and customer segmentation study to help address this challenge. Through 1,623 field surveys, 30 homeowner interviews and multiple discussions with environmental advocates and regional planners, the team identified two key groups of consumers to target: **progressive early adopters** of energy efficiency practices and **cost-conscious homeowners**. The identification of these two key groups helped the team to develop a consumer-facing program name and brand identity which appealed to the two identified target audience groups. The following Figures 3a and 3b show some of the more detailed qualities of these two groups.

Figure 3a: Overview of Booze & Company Research Scope and Identification of Target Groups

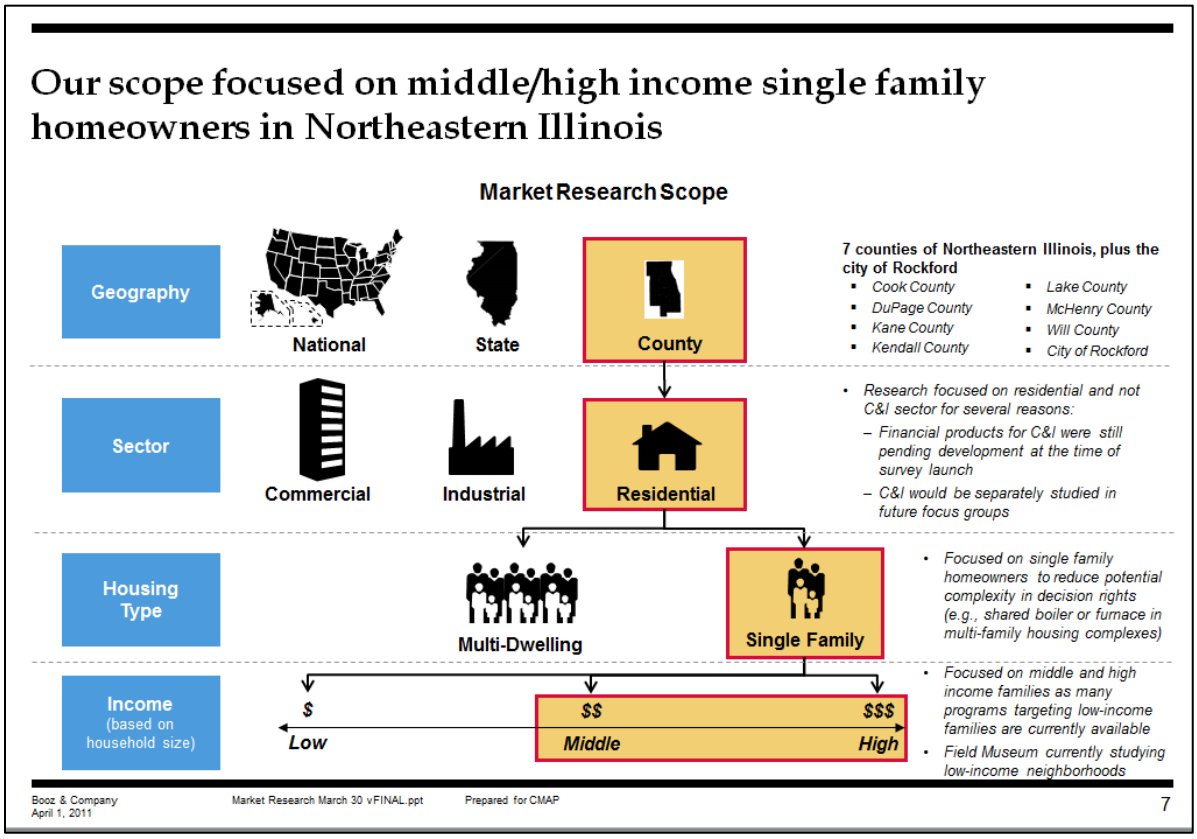
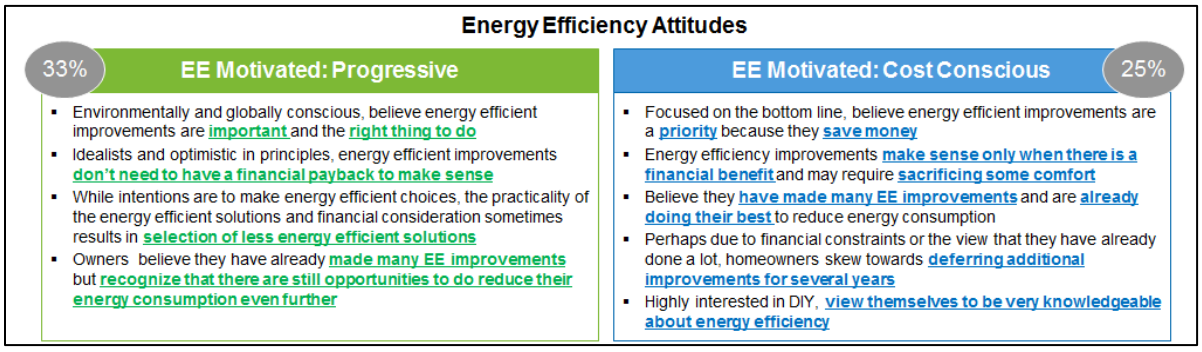


Figure 3b: Summary Findings of Energy Efficiency Attitudes of EI2 Audience Groups

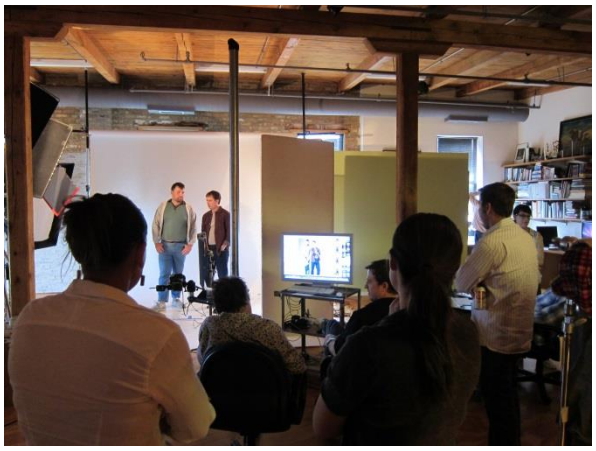


Energy Impact Illinois Brand Development and Launch of "Two Bills" Marketing Campaign

Following the customer segmentation effort, EI2 developed a brand that would be broad enough to house all of the energy efficiency programs spurred by the grant for a diverse group of consumers and stakeholders, including single-family homeowners, multifamily building owners, commercial/nonprofit building owners. Special focus was placed on addressing energy efficiency in a new and positive way, to help spur direct action among homeowners and

consumers. Moreover, the brand needed to be recognizable to consumers as a trusted and credible resource for energy efficiency information and incentives in the region.

Utilizing key learnings from the research process, EI2 conducted multiple brand development brainstorms and planning sessions, ultimately leading to the recommendation of the **Energy Impact Illinois** brand, which was enthusiastically received by all of the core stakeholders. The Energy Impact Illinois brand brought a visible energy efficiency brand identity to the marketplace where there previously wasn't one, establishing the program as the region's go-to hub for information on energy efficiency and resources for homeowners to complete efficiency projects. In addition, the brand positioned the topic of energy efficiency in a way that consumers could understand and easily absorb.



To bring energy efficiency to life for EI2, the team developed a creative campaign that hinged on two characters who personify the main benefit drivers for our target audiences: Big Bill and Little Bill. Big Bill is a procrastinator who takes a laid back and sometimes lazy approach to matters, with no real thought to reducing his energy use or improving the efficiency of his home. In contrast, Little Bill is very conscientious and proactive about energy efficiency. Together, this odd couple presented consumers with a simple question: Do you want a big utility bill or a little utility bill?

The "Energy Bills" marketing campaign added value to the Energy Impact Illinois brand, accomplishing the goal of raising awareness about the program and getting consumers to talk about energy efficiency in a fresh new way. They also made seemingly dry subject matter fun and engaging, and received positive response from media, DOE, and other stakeholders. Once these characters were developed, the team integrated them into a 360° marketing and communications strategy, which leveraged the Energy Bills to engage consumers on the topic of energy efficiency through humor and educational elements.

Once the Energy Impact Illinois brand and the Energy Bills characters were created, a comprehensive marketing and communications plan was developed to announce the program

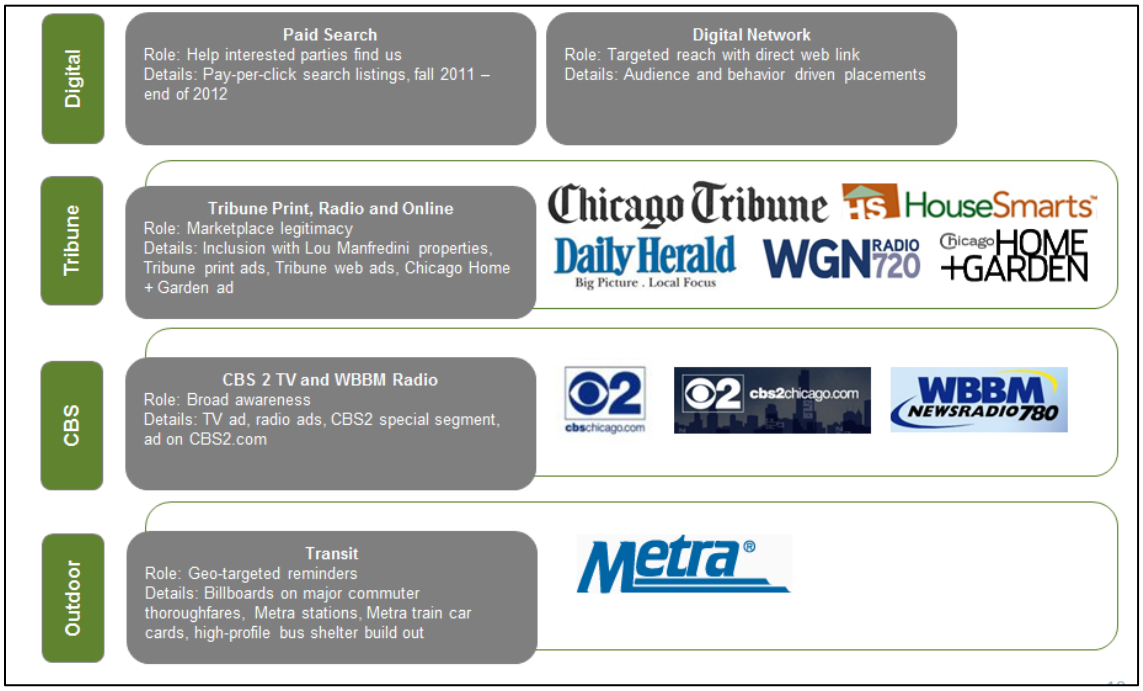
and achieve three key goals: drive awareness of EI2 offerings and tools, drive urgency around energy efficiency as a priority, and drive action in consumer visits to the program website.

To do this, EI2 utilized the "PESO" model to develop a comprehensive strategy that included tactics in the **paid media, earned media, shared media, and owned media** spaces. In advance of the fall 2011 program launch, the team developed key messages about the program, to ensure consistency among all marketing and communications activities. Once key messages were finalized, the team and advertising partner Fathom Communications executed a comprehensive PESO campaign that lived across multiple channels.

On the paid side, the advertising campaign was targeted heavily on the large Chicago Designated Marketing Area (DMA), the third-largest media market in the U.S. To use resources to their fullest potential, the media mix was varied across a few channels that directly targeted the progressive and cost-conscious audience segments. The media buy included:

- Seven media partners (CBS Entertainment, Tribune Media Group, Specific Media, Collective, Clear Channel Outdoor and Daily Herald)
- Two 60-second Energy Bills spots on CBS Chicago and 430 television spots total
- 108 radio spots
- Six billboards throughout the region and at suburban Metra transit stations in key zip codes
- Digital banner ads and full-screen ads on the CBS Chicago, WGN radio, and Chicago Tribune websites
- Full-page ads in the Chicago Tribune, Daily Herald, and Chicago Home & Garden Magazine, in addition to multiple banner ads
- Geo-targeted digital banner ads on national sites like MSN.com, Google, and Yahoo!

Figure 4: Paid Media Components for the First Wave of Advertising in Fall 2011



The ten-week ad campaign was successful in terms of delivering the broad reach needed to introduce a new program, resulting in 80 percent of the target market being reached an average of eight times. In total, the advertising campaign delivered 7,281,000 billboard impressions, 124,000 daily Metra impressions, 2,076,750 Chicago Tribune ad impressions, 430 television spots, and 108 radio spots.

In conjunction with the paid advertising campaign, EI2 developed a robust media relations program to gain visibility and awareness for the brand in the earned media space. The team developed media materials, such as press releases, to announce the launch of the program and conducted regular outreach to key media contacts throughout the duration of the program to announce important updates, such as new loan offerings and incentives for homeowners, and maintain a regular presence in the media. Media outreach efforts resulted in earned coverage in numerous local publications and websites, as well as larger outlets like Chicago Tribune and national environmental outlets like Grist.org.


gristlist

Fun with energy efficiency! (No, really. I promise.)

BY SARAH LASKOW
9 DEC 2011 11:55 PM

Ep. 2: It's Cold Outside

Big Bill and Little Bill provide tips to help Chicago homeowners save energy and money.

0:00 / 2:24

The problem with trying to make your home more energy-efficient is that energy efficiency is deadly boring. Start talking about heating systems and insulation and smart windows and even the niftiest thermostat ever, and eyes start to glaze over.

The Energy Bills, though, are funny. Ish. At least, they're funnier than any other conceivable idea that would educate people about energy efficiency. They're played by two Second City actors, and they're basically toned-down versions of Andy and Chris from Parks and Rec. Big Bill is lovable but dense, and doesn't have a clue how to keep energy use low. Little Bill is "a little tightly wound," in the words of Big Bill. But he's very conscientious and he can Help. You. Save. Energy. (Ann Perkins!)

The Bills are the brainchild of Energy Impact Illinois, which is trying to convince Chicagoans to use energy-savvy tools to deal with winter. But even those of us who don't live in cities that resemble ice pops for half the year can learn from the Bills. I promise that it will be the most fun thing about energy efficiency you've ever seen, or at least the most least unfun.

Sarah Laskow is a reporter based in New York City who covers environment, energy, and sustainability issues, among other things. Follow her on Twitter.

The three-year cumulative total of earned media impressions was more than 26 million. Additionally, the team created Energy Impact Illinois-branded pages on social media channels and posted regular updates and engaged with fans throughout the duration of the program, which has resulted in more than 455 Facebook fans and 340 Twitter followers.

In addition, outreach efforts were bolstered by utilizing the Energy Bills characters to create a seven-episode web series with multiple installments that sought to educate homeowners on the topic of energy efficiency in a way they can comprehend by utilizing humor in everyday situations. The series proved popular among consumers and was viewed on YouTube more than 3,500 times over the course of a few months.

The entire effort FH led for the Energy Bills marketing campaign was well received and led to a number of marketing awards for FH in 2012, including:

- Chicago Business Marketing Association Tower Awards, which recognize the best in marketing communications:
  - Gold Television Commercial for CMAP "Meet the Energy Bills"
  - Silver Total Communications Program for CMAP "Meet the Energy Bills"
- Stevie Awards:
  - Gold Stevie Winner for Consumer Advertising Campaign of the Year

As the final part of the communications strategy, the team tested developing a community engagement strategy to reach residents directly in their communities by attending neighborhood and community events. These large-scale events and shows provided a forum in which to distribute promotional literature to area homeowners, but did not prove suitable for having the more in-depth, one-on-one conversation required to move people closer to taking energy efficiency action.

Community-Based Outreach Campaign and the "Energy Impact" House Party Model

While the marketing campaign drove a significant number of media impressions and an uptick in web traffic to the overall site, this broad-based media effort alone was not enough to convert interested homeowners into taking out the single-family loan product EI2 had developed and completing a home retrofit.

After the marketing campaign was established and in-market during the last few months of 2011 and into early 2012, EI2 decided to shift toward an "on-the-ground" community-based outreach structure, as it became more apparent that consumers needed trusted, third-party messengers to drive home the EI2 message and bring a level of legitimacy to the program that helped consumers move forward with work. This effort coincided with significant changes in the rebate and financing incentives structure of the grant in mid-2012, primarily through the introduction of incentive rebates for homeowners who completed energy efficiency work.

This new approach saw the development of a Field Organizer (FO) initiative that assigned community organizers to local areas across the seven-county region to help guide people through the process of utilizing EI2's rebates and financial offerings to complete home energy efficiency upgrades. As part of this new strategy, outreach for EI2 was primarily conducted through Energy Impact "House Parties," where an EI2 FO and an EI2 contractor met with and conducted assessments at the homes of interested homeowners and their invited guests consisting of friends, family, and neighbors.

A typical house party consisted of a FO staff-led tutorial covering basic energy efficiency concepts and a contractor-led home walkthrough demonstrating energy leakages using thermal imaging cameras, blower doors, or smoke sticks. Hosts were provided a free ($99 value) comprehensive energy assessment for their participation, and house party attendees were given the opportunity to sign up for a $99 energy assessment of their home, or also host their own house party to receive the free benefit. The house party model provided a personalized, hands-on approach which allowed homeowners to become more comfortable with the retrofit process and understand where common energy leakage occurs. The FOs, 20 in total, including five regional supervising FOs, were also responsible for holding one-on-one and community meetings, one-on-one meetings with elected officials and community leaders, and managing questions and comments of participants through the process at any given point. Between August 2012 and September 2013, the FOs held 1,440 one-on-one meetings, hosted over 1,000 community meetings, helped customers complete 2,399 assessments, and can directly attribute 1,277completed/underway retrofits to the work they've done. The following Figure 5 shows additional detail on the outreach effort.

Figure 5: EI2 Community-Based Outreach and House Party Metrics

	Total (Actual To 9/30/13)	Cumulative Total (Goal)	% Goal to Total
One-on-One Meetings Held	1,440	350	411%
Community Meetings Held	1,001	865	116%
House Parties Held	652	1177	55%
Assessment Sign-Ups	6,109	5716	107%
Assessments Complete	2,399	3723	64%
Volunteers	285	745	38%
Retrofits (Under Construction and Complete)	1,277	1697	75%

EI2 credits this outreach effort, paired with its significant rebate incentive, as the catalyst for driving a large amount of demand in the single-family residential program in the final year. 50 percent of EI2 program rebates are directly attributable to outreach which generated an estimated 1:1 ratio in dollars spent on outreach against private leverage ($1.9 million on staff: $1.9 million in household contributions to retrofit work). EI2 house party rebates contributed to an estimated $1.2 million in rebate dollars which accounted for around 30 percent total project costs. The utilities contribution accounted for 20 percent of project costs, or approximately $700,000, and incredibly, households contributed 50 percent of the total project costs at an estimated total of $1.9 million.

Overall, the EI2 comprehensive communications strategy is considered to be a successful effort in raising awareness of energy efficiency in the Chicago region. While the funding for this specific activity is completed as of September 30, 2013, many of the techniques, strategies, and lessons learned developed during this process will continue to be used by the remaining EI2 financing programs and other program partners in the region.

Key Accomplishments

Task 1.0: Implement Regional Information Systems

SUBTASK 1.3: Develop communication strategies.

Partners will develop a communications strategy that determines the most effective strategies to communicate the benefits of retrofits and resources available for retrofits to relevant market segments. This strategy will act as the roadmap for outreach activities and ensure the optimal utilization of the most appropriate communication channels.

GOALS ACHIEVED: Customer segmentation research, brand development, and associated marketing campaign developed.

- In Q1 2010, FH and their subcontractor, Booz & Company, worked with the EI2 team and developed a market segmentation survey of over 1600 households throughout the region. They presented a comprehensive report of their qualitative research, which provided insights into consumer perceptions of energy efficiency.

- Following the survey findings, EI2 targeted its efforts to those most likely to undertake retrofit work in the near-term: progressive early adopters and cost-conscious homeowners. FH finalized the Energy Impact Illinois brand and developed a related logo based upon the market research and testing of different names.

SUBTASK 1.6: Implement marketing and branding strategies.
Partners will introduce branding and marketing strategies for retrofits broadly to increase consumer awareness and confidence, while at the same time increasing the number of participating suppliers. Specifically, the plan will use a holistic marketing outreach approach that leverages a combination of communication channels to maximize message penetration.
GOALS ACHIEVED: Energy Impact Illinois brand development, deployment of multiple "Energy Bills"-related advertising campaigns, development of hard-copy materials and documents to support on-the-ground outreach effort, and presented for and participated in various earned media channels to promote the program.

- In fall 2011, FH launched the "Energy Bills," an award-winning series of commercials, online ads, and webisodes featuring Big and Little Bill intending to communicate the benefits of energy efficiency using humor. The campaign's initial call to action was to visit the EI2 website. FH also developed a number of other communications promoting the Energy Bills concept, outlined below:
- Radio, Print, and Online Advertisements
- Exhibition on local transport (CTA, Metrarail)
- TV Commercials
- Facebook
- Twitter

- Additional marketing efforts:
    - "Dollars for Doing" campaign launched fall 2012 promoting the incentive rebate dollars as a benefit of completing retrofit work
    - Direct mail promoting the rebate
    - EI2 promotional powerpoint for local television stations to run
    - EI2 rebate recipient testimonials

- Outreach support tactics which began in summer 2012 included:
    - Program brochures

    - Press releases
    - House party support materials
    - Yard signs
    - Window clings

- Earned media gained:
- Articles placed in several local papers
- A prominent real estate blog
- A lengthy segment on Chicago Public Radio, discussing the MyHomeEQ tool
- Grist, a popular environmental news site.
- Chicago Magazine ran a cover story on "Boost Your Home's Value"
- Something To Talk About (Rockford cable channel show)

Challenges and Lessons Learned

Getting the word out about a new and upcoming energy efficiency program was one of the key aspects of driving demand in the EI2. It became readily apparent in the first year of the program that given size of the market EI2 was attempting to cover, one can never have enough marketing and outreach resources. EI2's marketing and outreach strategy was a dynamic effort throughout the duration of the grant. As the program tested and tried new strategies, FH, CNT Energy and other partners were all proactively engaged in promoting the Energy Impact Illinois brand and determined to deliver marketing and outreach deliverables that in the end contributed greatly to the uptake in retrofit activity that was seen in the program. Some challenges and key lessons learned from the EI2 communications strategy:

- *Energy Efficiency Messaging Challenges:* The realm of energy efficiency remains technical and not part of the average consumer's everyday thoughts and conversations. In most cases, marketing materials, media events, and outreach staff are usually starting cold in terms of energy efficiency education.

    - *Lesson Learned:* Elevate key messages to focus on relatable consumer interests. Simple, clear and consistent key messages are paramount. Not only should key messages be simple and easy to comprehend by consumers, but they should relate to consumer interests in order to drive action.

- *Balancing Subgrantee Involvement:* It proved challenging to have other subgrantees involved in the development of the EI2 website/information portal and communications strategy. EI2 designed its program to have two separate organizations develop these aspects of the program.

    - *Lesson Learned:* Integrate website development with marketing to ensure consistent messages and a clear call to action. In the case of Energy Impact Illinois, the call to action was to visit website that was not developed by the marketing team and contained no clear call to action. The focus of the Energy

Bills was on marketing energy efficiency, even though there wasn't a true incentive to promote getting retrofit work done. The Energy Bills were designed to get people talking about energy efficiency in a new way, and the campaign accomplished that. But the reality of getting people to take an action requires more than just getting their initial attention or awareness. Allowing the lead marketing team for an energy efficiency program to also develop the website will ensure consistent messages and brand identity across all initiatives. In addition, a clear call to action on a program's website is essential to achieving program goals.

- *Marking and Outreach:* Similar to web portal/marketing development – marketing and outreach should be done in tandem and ideally within the same organization This was again only something that EI2 learned by going through the grant process. While the two programmatic tasks seemed disparate enough to assign to separate organizations, future programs may benefit from this as a combined effort.

    - *Lesson Learned:* Combine the air and ground game. Giving consumers as many simple, straight-forward paths toward achieving retrofit work is critical. Often, consumers need individual, one-on-one consultation to understand the combination of options that will help them achieve their goals. And their goals may vary – some invest in work to do their part in contributing to a healthier environment, others invest to make their homes more comfortable and still others invest for the ultimate cost savings the work will achieve. Arming consumers with the knowledge they need often requires the work of trained navigators who understand all of the resources and how to achieve the greatest savings. Ultimately, the success for marketing an energy efficiency program comes down to executing program components in the right order to achieve results.

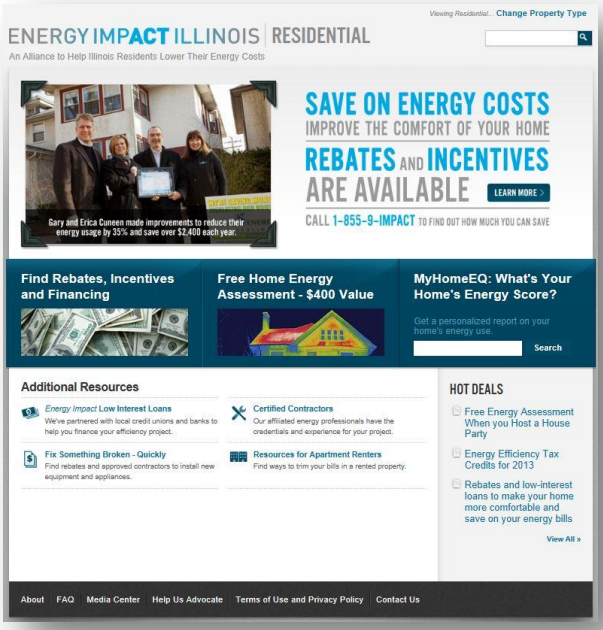
- *More than Messaging Needed:* The energy efficiency market is not yet primed to move on messaging alone. Despite extensive consumer research, brand development, mass market media investment, and an extensive on-the-ground outreach campaign, consumers rarely moved forward with work because of advertising.

    - *Lesson Learned:* The importance of an incentive to drive action. A clear and simple incentive for consumers is essential to getting them to take action. For example, a simple and attractive rebate or loan offering are easy for consumers to understand and take advantage of, thus increasing the overall appeal and success of an energy efficiency program. For EI2, the initial finance model was conceived before the economic downturn and had theorized that homeowners would be willing to take out a low interest loan now to save money tomorrow. However, in a recession, the appeal of loans dwindled and, ultimately, the residential program shifted its strategy to offer a rebate, combined with existing

utility rebates, that made energy efficiency work affordable and attractive for homeowners.

EI2 Information System and Website

A second major effort in addressing the access to information barrier was the creation of the EI2 information system and website. The website was to be a repository for accurate energy efficiency information for the seven-county CMAP region, as well as the City of Rockford. It aimed to connect consumers to educational information, finance incentives, and an appropriately trained workforce to facilitate an increase in energy efficiency market transactions. The consumer-facing website allowed for close collaboration between EI2 and its partners, including utility companies, local governments, and nonprofits.



Prior to EI2, there was no one comprehensive information system that catalogued all of the available, programs, incentives, or general energy efficiency information that was available in the Chicago region. EI2 aimed to change this by making information such as qualified contractor directories, financing, and incentive resources, as well as a library of energy efficiency information and education available to the public in a "one -stop-shop" format. It would also serve as a resource to help raise awareness and create a reliable, self-sustaining marketplace to connect consumer demand and market supply.

In November 2010, EI2 put out an RFP for a web-based regional information system and website that tackled the above challenges. A team made up of CMAP and CNT Energy staff, as well as members of the Retrofit Steering Committee, vetted and scored four separate proposals. Efficiency 2.0 (later C3 Energy) was eventually picked as the subgrantee, and a contract agreement was signed in February 2011.

The following section provides detail on the development and implementation of the EI2 website (http://www.energyimpactillinois.org).

Information System and Website Design

The EI2 information system and website (which eventually was referred to simply as the EI2 website) was designed to consist of the following core functions:

- ***Customer Facing Website:*** Designed for a range of customer types (residential, commercial, nonprofit/government, and contractors) to support their energy efficiency retrofit activities.
- ***Customer Segmentation Framework:*** Inherent to the system's functionality, it allowed the "right" content to reach the "right" customer based on their general requirements, needs, and specifications.
- ***Content Management System:*** Allowed for entry of energy efficiency related content, the management of the content approval process and publishing of new content to the Customer Facing Website.
- ***Content Distribution Module:*** Enabled the widest distribution of EI2 program website content and functionality by developing embeddable code and redirects that partner organizations could place on their website.
- ***Integration to Building Energy Tools.*** Integration of the online building energy tools (Residential and Commercial) into the Customer Facing Website.

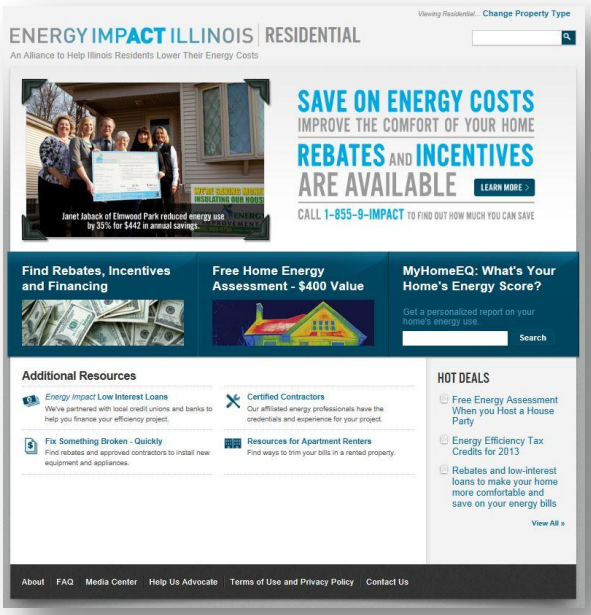
Efficiency 2.0 took the lead in developing the structure of the website, which was developed through an open-source content management system, or CMS, called ExpressionEngine. CMAP and CNT Energy staff provided the bulk of the initial direction for the content and feel of the website design throughout the spring of 2011. Since EI2's finance programs, access to information programs, and workforce intermediary efforts were all being procured and designed at the same time, the initial process of setting up the website proved to be challenging.

The website had a soft launch in June 2011, but after a delay in launching the primary single-family residential program, the EI2 website was re-launched five months later on November 1, 2011, so that all of EI2's programs and information sources were accurate to the program's specific offerings.

User Experience

The parallel "Energy Bills" marketing campaign underway at the time of EI2's full program launch focused its messaging on driving consumers to the proxy website www.TheEnergyBills.org, which redirected to the EI2 website. Once there, users across buildings sectors would find themselves able to "self-segment" into the four building sectors that had EI2 programs and other resources available in the Chicago region. Additionally, contractors who

were looking to become involved with the program, had a selection that allowed them to learn about the requirements of the program and get in touch with staff if they were interested in becoming a participating contractor.



Because of the extensive marketing campaign and the programs focus on ramping up its single-family residential loan program, a good majority of the initial visitors to the site selected and focused on the resources that were available under the "residential" tab. Once here, homeowners were immediately presented with an array of choices, ranging from educational links to the science and background of energy efficiency, to more direct ways to get involved. Finding rebates and incentives, immediately looking for qualified contractors, linking to resources to "Fix Something Broken," or reviewing "Hot Deals," were all part of the strategy to provide consumers with the EI2 resources most appropriate for them.

The website saw an increase in traffic during its launch and the "Energy Bills" media push, which included social media outlets such as Facebook and Youtube, after which the number of visitors dropped. In general, the traffic attributed to the media effort resulted in very short website visits, with a bounce rate (percent of users who leave the site immediately) of 75 percent and an average "time on site" of only 64 seconds. More specifically, users who clicked on an ad to visit the website had a far higher bounce rate and lower "time on site" than users who were referred through a partner organization or the community outreach effort. Another increase in site traffic occurred in the fall 2012, after the outreach efforts shifted to the house party model, but traffic fell back to the average number of users after a couple of months.

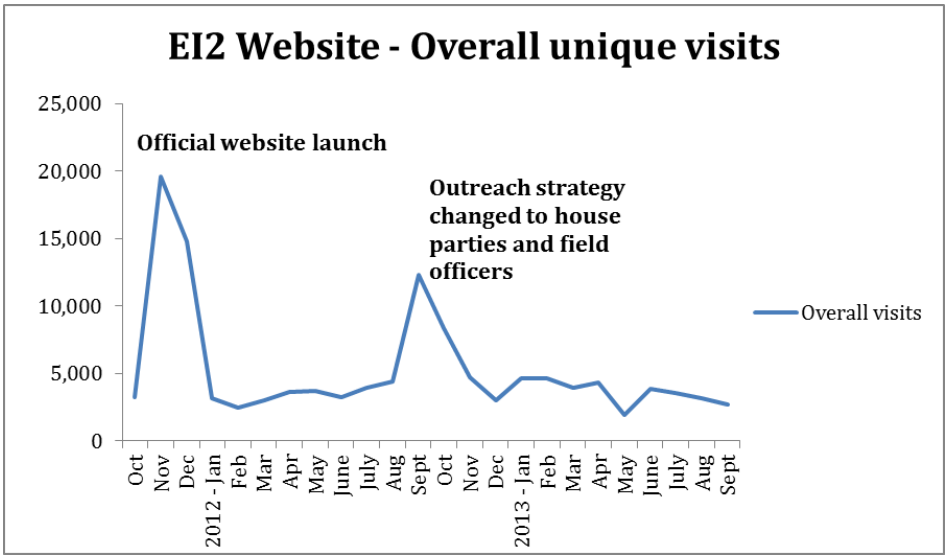
Website statistics, from the formal launch of November 1, 2011 through September 30, 2013 including:

- 117,238 unique visitors, of which 86,552 were from Illinois.
- The overall bounce rate was 66 percent.
- The average time on site was 1:33, with 2.07 pages per visit.
- An average of 6,000 unique users visited the site per month.

For the duration of the grant, the website underwent a number of updates and revisions to help refine the look and customer experience, and to highlight the information that seemed to be the

most useful to consumers. In particular, as the program adjusted many of its financing offerings to include rebate incentives, this action became the primary call-to-action to consumers visiting each building sector's landing page. The following Figure 6 displays web traffic to the EI2 website during the course of the grant.

Figure 6: EI2 Website Traffic – November 1, 2011 through September 30, 2013



One of the final functionalities to come online was the incorporation of the residential building energy tool, MyHomeEQ, and the commercial building energy tool, EnCompass, which were integrated into the EI2 website by April 2012 and will be discussed in detail in further sections. These tools were designed to help both residential and commercial visitors assess their energy usage and see how much they could potentially save when if they were to implement recommended upgrades. This integration of the tools rounded out the "one-stop-shop" aspect of the EI2 website and was meant to serve as a valuable tool for contractors and outreach staff when educating building owners in real time about their energy efficiency potential. Unfortunately, during the EI2 program's final phase of residential outreach, it became somewhat of a distraction, with outreach staff reporting that the tool was taking away from the messaging efforts and in-person information being provided. EI2 responded by deprioritizing the tool during outreach events.

Ongoing Maintenance

The EI2 website will continue to be maintained through November 2014 by the staff at CNT Energy. While the website featured many of the incentives and financing programs available through EI2, there remains additional information on partner programs and incentives that EI2 will continue to promote. EI2 staff plan to regularly review and update links so that consumers will continue to have a regional resource for energy efficiency.

Key Accomplishments

Task 1.0: Implement Regional Information Systems

SUBTASK 1.2: Develop regional information center.

Partners will develop a regional information center that creates an efficient mechanism for disseminating high-quality information and connecting building owners to qualified contractors and financial products, and facilitating market transactions using multiple communication channels to reach all segments. The regional information center will include an open-source back-end database and a front-end communication portal.

GOALS ACHIEVED: Design and launch of a comprehensive EI2 website; including integration of online building energy tools.

- The program website, www.energyimpactillinois.org fully launched on November 1, 2011, with a suite of tools, information on incentives, rebates, and financing programs. It featured three customizable content distribution widgets for placement on other websites. The website continued to be regularly updated with any program changes throughout the program. Metrics during the contracting term with C3 (formerly Efficiency 2.0) from the formal launch of November 1, 2011 through September 30 2013 are as follows:

    - 117,238 unique visitors, of which 86,552 were from Illinois.
    - The overall bounce rate was 66 percent.
    - The average time on site was 1:33, with 2.07 pages per visit.
    - An average of 6,000 unique users visited the site per month.

Challenges and Lessons Learned

Creating a comprehensive website on an expedited timeline, while simultaneously developing the program brand, marketing, and actual financial offerings that were to be displayed proved challenging. EI2 staff worked hard to cater the user experience to the materials and tools presented on the site, appropriately connect website use to action, and time the website design based on the program readiness. There was an initial expectation that users would utilize the resources and information on the site (loans, approved contractors, energy efficiency information) to help them complete the retrofit process, without additional assistance from EI2 staff. This proved to be incorrect; users did not respond well to a self-directed process.

Retrospectively, the website presented too much information upfront and possibly overwhelmed site visitors. Given the complexity of energy efficiency and the variety of options available to a customer, the user experience needed to guide the user through a discovery process. Over 99 percent of the site visitors were residential users, and this audience required more hand holding through the energy efficiency process. After making revisions and addressing lessons learned during the process, the site became more simplified and users were also offered the opportunity to call a newly developed call center at 1-855-9-IMPACT to speak to a customer agent about the many ways to save energy – a strategy that drove far more

consumers towards retrofit completion. Some of the additional challenges and key lessons learned from the EI2 website include:

- *Energy Efficiency Continues to be a Complex Topic:* Despite the goal of making the website experience comprehensive, yet simple and user-friendly, the expectations for consumers was too high. Even though the site provided all the information and access to the right resources – an expressed "barrier" to energy efficiency adoption -they did not connect the dots themselves and had limited interest in the advanced features of the website.

    - *Lesson Learned:* Programs looking at the overall goal of driving retrofits should put less emphasis on general energy efficiency education and focus more on delivering a textually and graphically concise, step-by-step website that pulls consumers through the process from "curiosity to completion."

- *Order of Operations Matters:* EI2, like many of the BBNPs, was building the website as it was simultaneously creating multiple program offerings. This unfortunately was part of the nature of ARRA-related programs during the grant period, but is not ideal when trying to activate a broad range of consumers to partake in programs.

    - *Lesson Learned:* Website development should closely follow, but not precede, finalized program design.

- *All Clicks are Not Created Equal:* Using low-engagement marketing tactics (online banner ads, TV ads and other "light touches") may have driven a higher volume of visitors to the site, but as we saw, they will most likely "bounce" from the site quickly. There was simply a disconnect between the type of advertising that draws clicks (low involvement messages) and the product the program was offering (high involvement process).

    - *Lesson Learned:* Educate smaller numbers of consumers who follow through the "curiosity to completion" process than thousands of light touches that resulted in very little action.

- *Not All Website Development Firms are Equal:* Despite an extensive vetting and review of the web development firm Efficiency 2.0, over the course of the program it became clear that the software that was being used wasn't as flexible as EI2 staff had envisioned and that the website building process was farther outside E2.0's area of expertise than had been originally identified. Following a takeover by C3 late in the grant, the final developments and tweaks to the website improved greatly.

- *Lesson Learned:* Programs should obtain and review multiple examples of previous work by proposing organizations and match carefully an organization's past deliverables to the expressed needs of the currently envisioned product.

Online Residential Building Tool (MyHomeEQ)

As stated earlier in the report, in spring 2011 EI2 solicited an RPF for one or more "online building energy tools," which could include web-based energy measurement and performance tools, traditional energy audits and diagnostics, and established and emerging software applications to provide vital energy efficiency information to building owners. EI2 received nine proposals from multiple firms and awarded contracts to two firms.

In July 2011, the first contract award for a residential building energy tool was awarded to MyHomeEQ, an online web tool which helps homeowners assess their home's energy usage and recommends energy efficiency home improvements they can perform, either themselves or with a contractor. The initial contract was for $400,000 to build the website, with a few amendments made through 2013 to bring total funding for the tool to $443,185.

The MyHomeEQ building energy tool was designed to:

- Create customized energy analysis and savings plans for homeowners.
- Integrate utility and property assessor data to ensure accurate read out of energy usage.
- Provide a MyHomeEQ score for users to compare their home energy usage against their peers.
- Direct users to incentives and rebates available to them.
- Connect consumers directly to qualified contractors.

The anticipated outcomes of the tool were to educate homeowners about their specific home energy usage, actionable retrofitting activities, financial incentives, and qualified contractors. By providing this information, and the steps to take, the tool would help increase conversion of consumer tool interaction to actual retrofitted homes and in the long run, create a market opportunity for integrating home energy usage information into the decision-making process within the real estate market.

Contractor documents were added later to the tool, which revolved around three main forms:

- Home Energy Assessment Form
- Rebate reimbursement form and calculation worksheet
- Retrofit information reporting form

The goal of adding the contractor forms was to help contractors complete their paperwork, and provide consistency among the entries and encourage timely report submission in order to reduce delays in completing retrofit work.

Product Development and Incorporation into EI2 Website

MyHomeEQ was integrated and featured on the EI2 residential website and also has its own web domain at www.myhomeeq.com. In the first two months of its launch on the EI2 website more than 2,400 unique users visited the site. The tool was also promoted early on in local and national news outlets and blogs, including WBEZ, Grist.org, and the Chicago Tribune.

User Experience

MyHomeEQ was designed so that a homeowner can easily find their home's energy usage in a few short steps, starting first with the user simply entering their address. The tool relied on the municipal property assessor data associated with the address to generate initial findings and recommendations for the home. If property assessor data was not available, the homeowner could also manually enter in their home's characteristics to generate findings and recommendations. The homeowner could also provide their gas and electric utility account information to further improve the accuracy of the tool.

As shown in the following Figure 7, after inputting the home's characteristics, the homeowner was directed to the initial dashboard showed in the screen below and received their EQ score, which included (1) how their home compared to similar homes and (2) to their city or town in general. They could see (3) how much they could potentially save annually and (4) were also given the option of editing their home details or (5) posting their score to Facebook.

Figure 7: Dashboard of MyHomeEQ

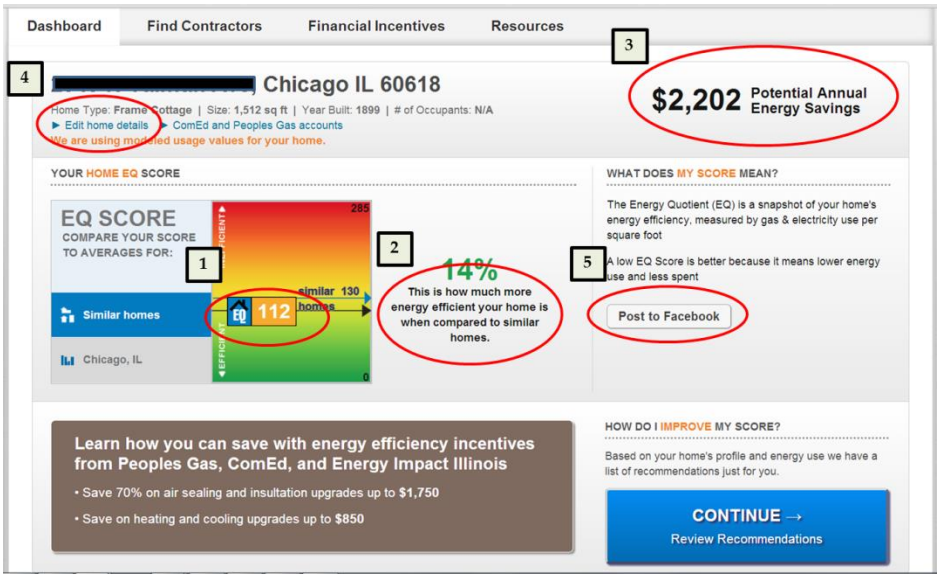
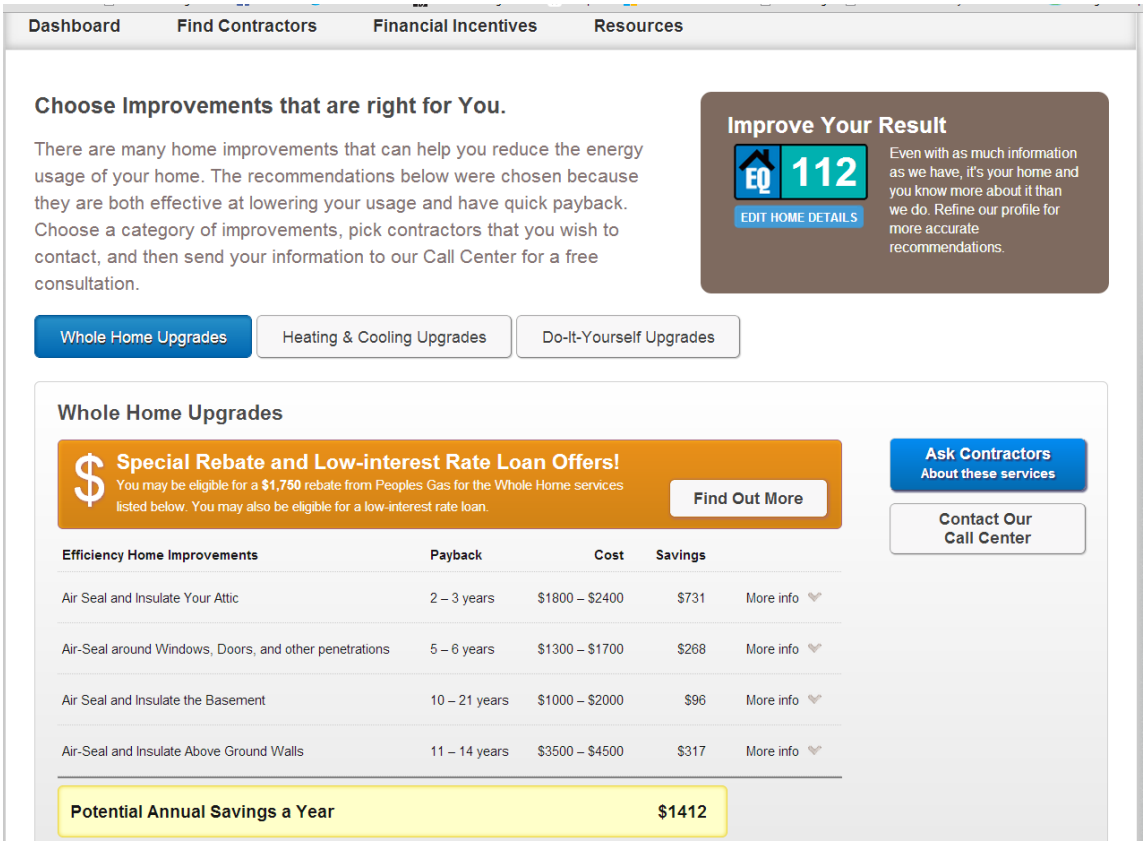


Figure 8 shows the next part of the website, where homeowners could learn what energy efficiency improvements they could make to their homes. These improvements were broken down by whole home, heating and cooling, and do-it-yourself categories. The tool showed homeowners how long of a payback period there would be, the cost to implement the improvement, and the savings they could expect. There was also a link to contact contractors directly or to contact the EI2 call center.

Figure 8: Additional MyHomeEQ pages



If homeowners wanted to contact a contractor directly, the site took them to a list of certified EI2 contractors with a short description and the contractor's contact information. The homeowner could also request through the site to be contacted by the contractor. At the end of the process, homeowners received a summary sheet that listed details about their home and their EQ score. The summary also listed rebates and incentives, recommendations selected by the homeowner, the previous year's energy usage, and tips for simple ways to save money.

Programmatic Adjustments

After the first few months of its launch, the tool saw a drop off of users and had only a handful of conversions of users taking action to access contractors and complete retrofit work. In addition, EI2 began to receive feedback for the tool during the Energy Impact "house party" initiative – which largely found that the tool, when used as a means of outreach, tended to

distract attendees from paying attention to the presenter, and thus probably was not being successfully utilized.

Subsequently in fall 2012, the tool shifted the scope to become a tool for contractors to upload the documentation forms there were required for completed retrofits. Contractors were having their own struggles with the paperwork and forms for the program, and the MyHomeEQ team shifted focus to creating a more streamlined and uniform way for contractors to fill out and upload forms. he three forms were developed over several months, and included the following functionality:

- Population of contractor details.
- Standardization of entries on forms and between related forms.
- Automatic population of known home details, correctable by the contractors.
- Calculation of potential energy savings based on measures selected.
- Calculation of total cost to homeowner based on contractor provided costs and applicable rebates.
- Using saved data from earlier forms to populate later reports.

This change helped contractors to spend less time with the forms and get paperwork submitted faster and more consistently. After the implementation, approximately 50 contractors submitted over 2,100 forms using MyHomeEQ.

MLS Partnership

MyHomeEQ worked with the Midwest Real Estate Data LLC (MRED) on another feature of the tool to allow homeowners to upload their MyHomeEQ report to the Multiple Listing Service (MLS) when listing their homes. In March 2012, MRED added a report from MyHomeEQ as an option for supporting documentation in the Green Supporting Documents field, which allows homeowners to upload documentation from third-party resources to show that their home is certified or has tested as green and energy efficient.

The MyHomeEQ score was also used by MRED and the City of Chicago to support the Chicago Heating Disclosure Ordinance, which requires a property owner to disclose gas or electric for a particular address, and was launched in July 2013. Agents were able to enter ComEd and Peoples Gas account numbers into the MLS to retrieve the average gas and electricity costs for display in the MLS listing – MyHomeEQ was the source of the data. A report that satisfied the ordinance was also available for download. Since the launch, the tool has fielded over 3800 requests from real estate agents in the Chicago region. MRED is currently evaluating the uptake of the tool and how agents are using it.

Key Accomplishments

SUBTASK 1.4: Develop energy audit tools.

Partners will develop and integrate multiple web-based energy measurement and performance tools, traditional energy audits and diagnostics, and established and emerging software applications to provide vital information to building owners. This information will generate demand for retrofits, assist in making investment decisions during the decision-making process, and result in energy performance being broadly considered in real estate transactions. These tools will be incorporated into the Regional Information System.

GOALS ACHIEVED: Residential online building energy tool developed and integrated into the broader EI2 website.

- MyHomeEQ, the residential online energy tool, provided personal energy efficiency information to approximately 10,100 unique users and helped move 10-15 people through the retrofit process. In the second year of the tool, MyHomeEQ was primarily used by program contractors as a way to estimate savings from energy efficiency measures. Using MyHomeEQ, over 2,300 reports have been created by contractors and provided to customers showing the energy savings that we achieve from retrofits. The tool was also utilized by MRED, the MLS provider for the Chicago area, and received over 3,800 successful requests since the launch.

Challenges and Lessons Learned

The program faced three major challenges: 1) getting users to the site, 2) converting users to actual retrofits, and, later, 3) how the site worked within the context of the residential EI2 program as a whole.

- *Driving Users to the Site*: Despite some marketing of the tool and the link on the EI2 website, the number of site visitors declined after the initial launch in fall 2011. Overall, for the duration of the program, there were approximately 17,000 visitors and just over 9,700 of those were unique. Visitors were confused by what the score was and what it meant, especially in a larger energy efficiency field, as it was unique to EI2 and not connected to more broadly understood energy scores like the Home Energy Score (HES) program that DOE has developed.

    - *Lesson Learned:* The HES program ran a pilot at the same time as MyHomeEQ in spring 2011, but HES did not have the programming interface needed to incorporate it into the MyHomeEQ tool until long after MyHomeEQ launched. These types of scoring applications may receive greater legitimacy and further participation when partnered with or included in a program implemented on a national level.

- *Converting Users to Actual Retrofits*: One of the original outcomes for the tool was to help convert users of MyHomeEQ to actual retrofits. Overall, the program only had approximately 10-15 retrofits that could be attributed to the process presented on the site. A number of factors likely contributed to lack of conversions – in part, warmer winters and low gas prices contributed to the low uptake, especially when the benefits of having retrofit work done was not immediately clear.

    - *Lesson Learned:* The value of the information presented on MyHomeEQ was not enough to move users to retrofit. The rebate, which was not available at the beginning of the EI2 residential program, ended up driving more retrofits through the program. Potentially offering an increased rebate incentive for users who move through and then on to retrofit work may have increased participation. Other efforts to help drive the number of retrofits that could be attributed to MyHomeEQ included instituting phone numbers that could be tracked so that retrofits could be more easily identified as having originated from MyHomeEQ; adding more utility usage data which allowed for more accurate results and increase the benefits of the tool; and deploying the address search widget to more partner organizations.

- *Online Tools Developed May Distract from In-Person Contact*: In the summer of 2012, the outreach for the EI2 residential program moved to a house parties-based model, which were led by an EI2 field organizer and certified contractor. A decision was made to not incorporate MyHomeEQ into the presentation given at the house party as it distracted and confused the homeowners. The outreach team found that the EI2 program was more successful when there was a direct, personal contact to help guide homeowners through the process than using a more static website.

    - *Lesson Learned:* Despite the seemingly helpful prospect of using digital and internet-based technology to better educate consumers about energy efficiency, it may be best to keep things like MyHomeEQ as an optional "add-on" or "for further information" device during outreach presentations.

Online Commercial Building Tool (EnCompass) and Gateway Service "Road Maps"

In July 2011, the second of the building energy tool contracts was awarded to PositivEnergy Practice (PEP), an energy services, engineering, and consulting company that conceives, designs, implements, and manages energy performance, resource management, and carbon reduction strategies. Following the contractual award, PEP was charged with the creation of

the EnCompass commercial building energy tool. The tool was designed to inform commercial buildings greater than 300,000 square feet about energy efficiency opportunities. Its primary function allows building owners and managers to enter information about their current energy usage and receive customized feedback that included conceptual visualizations of the building's energy consumption, recommendations about what energy efficiency measures could be taken, and potential financing options. The program later expanded on EnCompass tool by engaging commercial buildings through what became known as the Retrofit Gateway Service (RGS) "Road Maps," which gave building owners a deeper analysis of the building's usage and recommended steps to achieve energy savings.

On July 25, 2011, the first contract was written for $600,000 to develop the interactive website. Further support and expansions on the scope of the EnCompass tool and the RGS brought the total awarded to PositivEnergy at $1,282,720. A majority of these additional funds were reallocated from the unused portions of the SCIenergy commercial program.

The objectives for the commercial building energy tool included:

- Developing customized energy recommendations based on user input and/or innovative data analysis to assist building owners in understanding the benefits of performing a retrofit.
- Making data actionable by utilizing and synthesizing property, energy consumption, demographic, geographic or other data sets to recommend specific energy conservation measures.
- Providing a retrofit roadmap to help building owners understand the steps needed to perform a retrofit based on the recommendations developed.
- Generating demand for retrofit activity by making the tool widely available as part of the EI2 Information System.
- Assessing the results by collecting data and information on retrofits performed as a result of EnCompass tool usage and/or program utilization by gaining consumer input about the retrofit process.

The anticipated outcomes for the tool were the creation of a centralized, online energy tool for use by commercial building owners and managers, peer to peer comparison of buildings throughout the Chicago region, and for buildings to move from the survey to performing upgrades on their buildings.

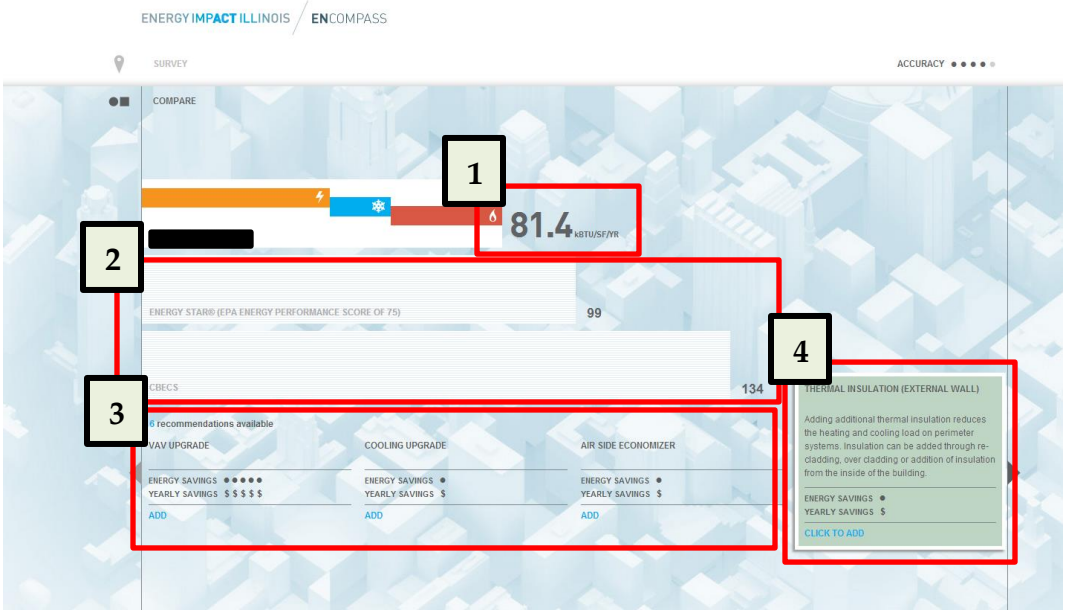
Product Development and Incorporation into the EI2 Website

The EnCompass tool was launched the week of February 6, 2012, after a beta testing period with eight buildings. The tool, designed to be completed in five to ten minutes, took building manager or owners through three steps – Survey, Compare, and Act. The survey portion asked for the building's basic information on heating, cooling, ventilation, façade, and lighting. Owners/managers could input more details to get a more specific energy score. The tool generated an initial score based on the survey answers using commercial building energy

consumption survey (CBECS) parameters for "typical" office buildings in the Midwest. The owner/manager then could enter more specific basic data to help produce a more specific score

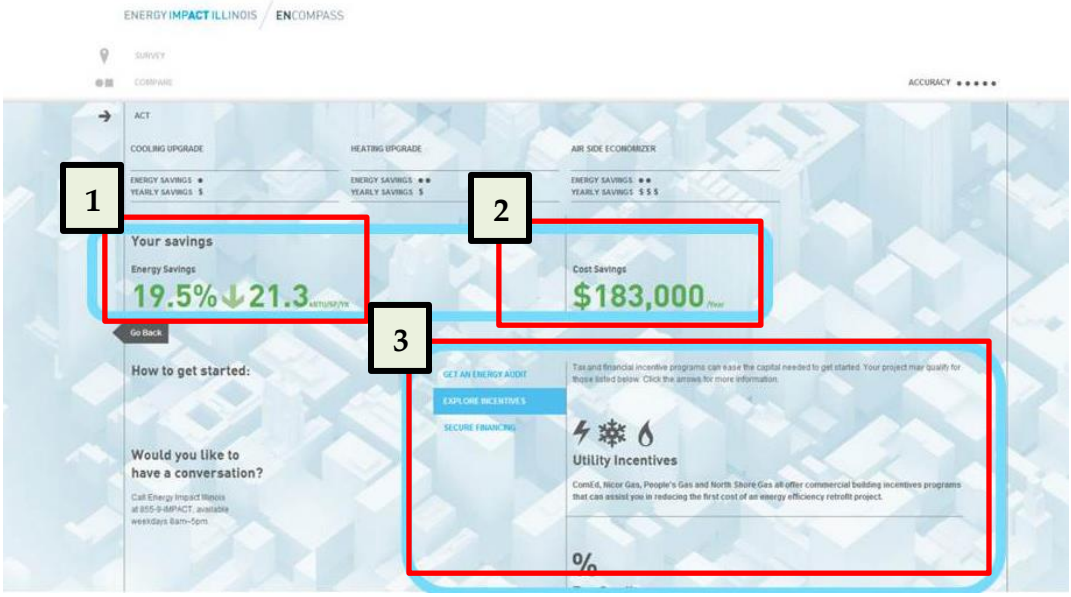
The following Figure 9a shows the building's score (1) would change depending on the information entered, with the tool showing the building's usage against other benchmarks (2). Recommendations for upgrades to the building are shown (3), and users can rollover each one to show more information about each upgrade (4).

Figure 9a: EnCompass Commercial Building Energy Tool



The final section of the website showed building owners and managers their energy savings (1) the cost savings per year (2), and how they could get started (3), which included getting an energy audit, exploring incentives available, and how to secure funding.

Figure 9b: EnCompass Commercial Building Energy Tool



By late summer 2012, approximately 30 building owners and managers were utilizing the tool to analyze their buildings' energy usage, however the tool had yet to see any conversions to actual retrofits. Around this time, the City of Chicago asked EI2 to partner with them on its Retrofit Chicago - Commercial Buildings Initiative (CBI), a public-private partnership designed to enlist commercial buildings in publicly pledge to reducing their energy consumption by 20 percent over a five year period. In September 2012, amendments to the contract were made and aimed at increasing the number of retrofit conversions by 1) utilizing the information offered by the EnCompass tool, and 2) supporting the City's request for partnership. The result became the Retrofit Gateway Services (RGS) "Road Maps," an effort that provided participants with detailed steps on navigating and prioritizing energy conservation opportunities and mapping out the path for undertaking energy efficiency retrofits in a road map format. This effort essentially expanded the "Recommendations" section of the tool, making them "live" and more building-specific.

Road Maps

Expanding upon the recommendations provided by the EnCompass tool, the Retrofit Gateway Services original scope of work as laid out in contract amendment included:

1) Review and determination of estimated building Energy Utilization Index (EUI).
2) ASHRAE Commercial Building "Level 1" Energy Walk-Through Analysis as necessary for a limited set of buildings identified on a case by case basis.
3) Identification of potential Energy Conservation Opportunities.
4) Estimate of Energy Conservation Savings Potential based on the EnCompass online energy tool coupled with professional experience.
5) Customized package of available incentives / retrofit resources from Energy Impact Illinois program and other Retrofit partners for the specific building.

6) In person meetings to describe options and specific path for undertaking a successful Retrofit.

Further amendments changed the scope slightly to expand the scheduling of in-person meetings throughout the road map process, from the kick off to the delivery of the road map. The process typically included the following five meetings:

1) *Introduction/survey meeting:* This meeting informed the building about the process and surveyed staff on how its decision making process when investing in building upgrades.
2) *Building Walkthrough 1*: PEP engineers would complete a few-hour walkthrough of the entire building to understand the age and specifications of it operating systems.
3) *Building Walkthrough 2:* PEP engineers return for a second walkthrough to review any additional details they need to determine the 20 percent energy savings path.
4) *Draft Review:* One of the most important meetings in the process, this 1.5-2 hour meeting reviewed the findings and asked building management and staff to provide any input on the recommendations. This meeting often uncovered important details that improved the road map – e.g. additional past audits the building forgot to share initially or additional financial reasons a building may or may not consider upgrades. It also provided an opportunity for building engineers to share any more technical details that may have been missed.
5) *Final Presentation:* This meeting typically included building management and ownership representatives when available/appropriate. It summarized the 20 percent energy reduction pathway with an emphasis on the business-case for investment. This meeting was primarily intended to have a decision-maker hear the case for the upgrade with a reliance on management and engineering staff validating the recommendations.

Road Map Results

In total, 21 buildings received Road Maps representing 18 million square feet of commercial space; 19 of which were participants in the City's Retrofit Chicago Commercial Buildings Initiative and the remaining two were the suburbs of Evanston and Naperville. Implementation tracking continues and the initial results confirm about half of the buildings have begun implementing at least on road map recommendation. Figure 10 summarizes the total recommendations and findings of all Road Maps.

Figure 10: Cumulative Potential Energy Savings from RGS Road Map Participants (if recommendations implemented) and Additional Information

Average Capital Req / Energy Savings ($/kBTU Saved)	$ 0.11
Average Energy Savings / Measure (kBTU/SF/yr Saved)	24.8
Average Annual Energy Reduction (%)	24.0%
Total Energy Savings (%)	22.2%
Total Energy Savings (kBTU/yr)	356,648,193
Average Cost Savings for ECMs ($/yr)	$29,356
Average Program Cost Savings ($/yr)	$237,503
Total Cost Savings ($/yr)	$4,987,572
Average Install Cost for ECMs ($)	$227,015
Average Program Install Cost ($)	$1,894,324
Total Install Cost ($)	$39,780,804
Average Incentive Amount ($)	$30,017
Average Program Incentive Amount ($)	$203,073
Total Incentive Amount ($)	$4,264,540
Average Capital Required After Incentives ($)	$196,997
Average Program Capital Required ($)	$1,691,251
Total Capital Required After Incentives ($)	$35,516,261
Average Payback Years (After Incentives)	7.4
Average IRR (%)	10%
Average Net Present Value ($)	$ 144,435
Lowest payback/highest impact recommendation	Boiler upgrades
Quickest payback recommendation (excludes no cost measures)	Beverage Machine Occupancy Control
Highest energy efficiency savings measure (hotel)	Install dry cooler to eliminate chiller operation below 50^{0}F OAT
Highest energy efficiency savings measure(commercial)	Replace existing steam boilers with hot water boilers (Incremental)
Highest energy reduction total (base building)	37%
Lowest energy reduction total (base building)	14%

Accomplishments

SUBTASK 1.4: Develop energy audit tools.

Partners will develop and integrate multiple web-based energy measurement and performance tools, traditional energy audits and diagnostics, and established and emerging software applications to provide vital information to building owners. This information will generate demand for retrofits, assist in making investment decisions during the decision-making process, and result in energy performance being broadly considered in real estate transactions. These tools will be incorporated into the Regional Information System.

GOALS ACHIEVED: Commercial online building energy tool developed and integrated into the broader EI2 website.

- **EnCompass**
  EI2's online commercial energy tool had 87 accounts set up and had over 2,600 total visits, with over 1,600 unique visitors over the duration of the program.

- **Road Maps**
  The Road Maps, paired with the City of Chicago's Retrofit Chicago Commercial Building's Initiative provided a clear, investment-case opportunity for buildings to achieve their publicly committed 20 percent energy reduction goals. Building staff representatives reported the utility/vendor-neutral Road Maps clearly laid out a financial plan for the building in an organized and concise manner specific to their property, making decision-making on how to move forward easier. Buildings also reported the step-by-step nature of the recommendations that took into account low-cost, end-of-equipment-life, and incremental investment opportunities created a better understanding of the financial benefits of an energy investment. In some instances buildings initially reported they did not have capital to invest in upgrades but were able to fast-track or approve quick-return, low cost, higher energy-savings opportunities once they received the recommendations. For example, many hotel properties felt they had little to no capital to expend on energy efficiency but were able to take immediate steps to install beverage and snack machine sensors once they understood they were low cost and had lucrative utility incentives associated with them.

Challenges and Lessons Learned

- *Converting Online Tool Users to Retrofitters*: Like homeowners and multifamily building owners, being presented with information alone is not enough to motivate most building owners.

  - *Lesson Learned*: EI2 attempted to address this by the creation of the Retrofit Gateway Services Road Maps, which helped to guide building managers/owners in making informed decisions. Like residential,

commercial property owners benefit from a trusted third party analysis of their energy efficiency potential.

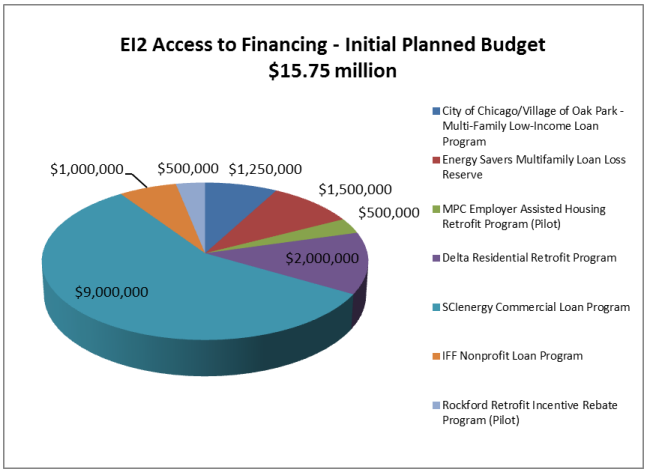
- *Closing Driver for Action Needed Following Road Map Delivery*: Two Road Maps were provided to suburban buildings – one to an all-electric building in Naperville that supplies its own electricity and one in Evanston. While both buildings had energy reduction opportunities the Road Maps could not rely on a publicly stated energy reduction as a driver for action. While some of the recommendations were financially feasible, the longer-payback investments are less likely to be implemented except in the case of end-of-useful life replacement.

    - *Lesson Learned*: Local government, utility, and program partners are key to motivating commercial buildings to take action. Barring a stated expression of interest by building owners, priorities may easily shift and recommendation may be ignored if there is not active involvement by all partners.

- The original concept of timing of the Road Maps was a six-week process from introduction meeting to final presentation. Oftentimes however schedule took longer because buildings had unavoidable timing conflicts – such as ownership visits, vacations, or waiting on prior audit reports to be completed and delivered. Consequently, the delivery of all Road Maps took a month longer than originally anticipated.

Addressing Access to Finance

The EI2 program focused a majority of its funding ($15.75 million) on delivering energy efficiency financing and resources to homeowners and building owners in the Chicago region. Prior to EI2, a significant challenge faced in the retrofit market was that financing was not appropriately targeted to the specific needs of each building . In addition, what did exist was not effectively designed, organized, and marketed to reach the broader audience within the residential, multifamily, and commercial/industrial building sectors.



During pre-grant discussions with financing institutions, stakeholders involved in all building sectors, and DOE technical assistance, EI2 was informed about possible financing program scenarios that organizations may propose to bid on and implement were CMAP to obtain a grant. EI2, like the national Better Buildings Neighborhood Program, was interested in implementing programs that best serve the consumers of the seven-county CMAP region, while at the same time providing test-case data that proved that energy savings are an effective and dependable cash flow stream that would support a stronger and sustainable energy efficiency marketplace.

Following the award, EI2 develop and solicited 6 separate financing program RFPs looking to provide resources to the following residential, multifamily, and commercial/industrial building programs:

- Single-Family Programs
  - Delta Residential Retrofit Program
  - Rockford Retrofit Incentive Rebate Program - Pilot
  - MPC Employer-Assisted Housing Retrofit (EAHR) Program – Pilot

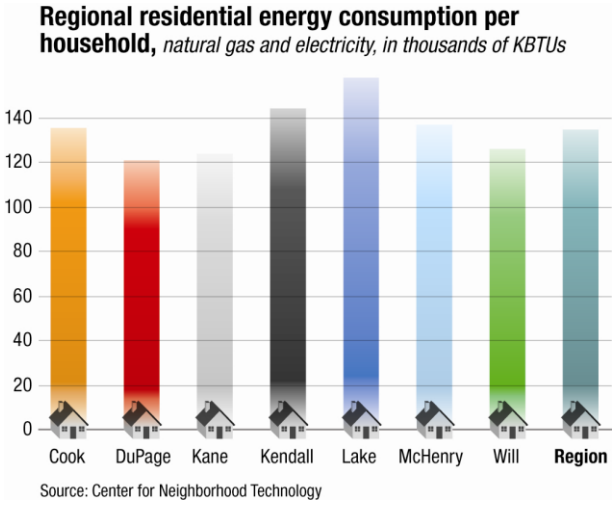
- Multifamily Programs
  - Energy Savers Multifamily Loan Loss Reserve
  - City of Chicago / Village of Oak Park Multiunit Retrofit Improvement Loan Programs (MURIL) – Pilot

- Commercial and Nonprofit Programs
  - SCIenergy Commercial Loan Program
  - IFF Nonprofit Loan Program

This section provides a detailed look into the progress that was made in addressing access to finance over the course of the EI2 grant.

Single-Family Residential Programs

Prior to the EI2 grant, research had shown Chicago-area residential buildings to be "dramatically" less efficient in how they use energy – along the order of twice the energy use compared to similar buildings elsewhere in the Midwest.[5] While energy efficiency awareness and programs in the northeast Illinois region had been growing prior to the EI2 grant, many of the programs delivering residential services had disparate participant qualification requirements and underlying funding sources, making coordination and seamless delivery of energy efficiency to homeowners less than ideal.



In addition, one of the more prominent assumptions going into the EI2 grant was that access to adequate financing was a key barrier to allowing homeowners to move forward with what can often be a significant upfront cost to making energy efficiency improvements. One regional study found that on average, a typical Chicago-region home with one to four units could expect to spend $5,000 - $7,000 for a comprehensive, whole-home retrofit for 30 percent energy savings. To achieve the EI2/BBNP goal of 15 percent energy savings per project, the cost would be roughly about half that ($2,500-$3,500).[6] Given the significant upfront costs of completing a comprehensive retrofit, readily available competitive financing was deemed critical to moving the single-family energy efficiency market forward.

EI2 designed its program to tackle many of these challenges and developed three innovative financing and incentive program solutions for the residential sector over the course of the grant. These included:

- **Delta Residential Retrofit Program:** A low-interest energy efficiency loan and rebate incentive program available to all residential homeowners in the seven-county CMAP region.

- **Rockford Retrofit Incentive Rebate Program (Pilot):** A tiered, "deep retrofit" rebate incentive program that achieved at least 30 percent energy savings in

[5] CNT Energy, op. cit., p.3.

[6] CNT Energy, op. cit., p.11.

participant homes in the City of Rockford and provided a greater incentive based on the level of energy efficiency achieved.

- **Employer Assisted Housing Retrofit Program (Pilot):** A program developed to allow interested employers the ability to provide a forgivable loan benefit used for energy efficiency improvements to the homes of their employees.

The Delta Residential Retrofit Program ended up being the largest single-family residential program within EI2 and was created to follow a standard LLR model that was common among other BBNP participants. The pilot programs however focused on more innovative approaches, and were limited in the breadth of homes they reached (approximately 100 homes). At the launch of the EI2 program, these specific types of financing programs were unique to the northeastern Illinois region. Since program inception, additional financing options through other stakeholders have been developed.

Delta Residential Retrofit Program

Following a competitive procurement that originally awarded the subgrant to AFC First, due to lack of commitment from private financial organizations backing AFC First's proposal, EI2 rebid out the residential retrofit program RFP and was delayed in implementing this program by five months. The second winner in this process was the Delta Institute, a nonprofit organization that partners with businesses, government, and communities in the Great Lakes region to create and implement innovative, market-driven solutions that build environmental resilience, economic vitality, and healthy communities.

Delta's original award of $2 million was finalized in September 2011, and the program worked quickly with local banks and credit unions to line up private capital to be able to start offering a loan product that fall. In addition, EI2 aligned closely with the Illinois Home Performance with Energy Star (IHP) program that was concurrently being administered by the Midwest Energy Efficiency Alliance (MEEA). Both MEEA and EI2 agreed to follow IHP protocols in delivering the EI2 loan program, and through this partnership EI2 was able to set up standard contractor qualifications for program delivery as well as qualify participating homes to receive an IHP certificate once they completed work that met the 15 percent energy savings goal.

The initial program, launched in November 2011 and offered low interest loans through several local banks and credit unions, including:

- Green Choice Bank
- North Side Community Federal Credit Union
- South Side Community Federal Credit Union
- Members Alliance

Supported by EI2's $2 million LLR, the private financial commitments for this program were then pooled to form a $16 million loan pool through which to make homeowner loans. The

product was capped at 8 percent interest, or lower for qualified borrowers, and covered the following measures for the whole home retrofit:

- Attic insulation, air sealing, and duct sealing
- Furnaces, boilers, and hot water heaters
- Steam balancing (includes replacement/repair of existing vents, traps, and valves)
- Boiler controls
- Central AC replacement
- Programmable thermostats
- ENERGY STAR appliances – provision and installation
- Replacement of existing lighting with CFL/LED/T5 and T8 lighting
- ENERGY STAR windows

Over the course of the first six months of the program, in tandem with EI2's "Energy Bills" marketing campaign, EI2 only received and processed four home loans toward energy efficiency. Through feedback obtained via Delta and our financial partners, it became readily apparent by spring 2012 that the consumer market demand for residential energy efficiency financing was not nearly as large as expected. Many factors were believed to play into this, but ultimately the most important variable was consumers' general lack of interest in taking on additional debt because of continued weakness in the broader economy. This was despite understanding that energy efficiency leads to long run cost savings. In addition to these developments, previously committed financial institutions in the loan pool cited administrative difficulties in setting up this type of program with their offering and pulled their commitment from the program, bringing the total available loan pool down to $6 million.

By July 2012, EI2 strategized with DOE and members of the Retrofit Steering Committee to develop financial incentives, including a rebate incentive and interest-rate buydown for the loan product in an effort to increase demand for retrofits. Initially, of the $2 million allotted forthe LLR, $1.5 million of that was cut out and


Illinois Home Performance

Silver

Certificate of Completion

Home address:
1234 Sample Street
Sample, IL 60000

This home has achieved an estimated total energy reduction of at least 15%* after the following home energy upgrades:

Contractor:
Name of Contractor

Program Provider:
Program Provider

Work Completed On*:
__/__/____

- Air sealing performed reducing total air leakage rate by 34%
- Attic insulation improved to R-49
- Existing bath fan vented to exterior

Agnes Mrozowski
Assistant Deputy Director, Illinois Energy Office

HOME PERFORMANCE WITH ENERGY STAR

Illinois Department of Commerce & Economic Opportunity

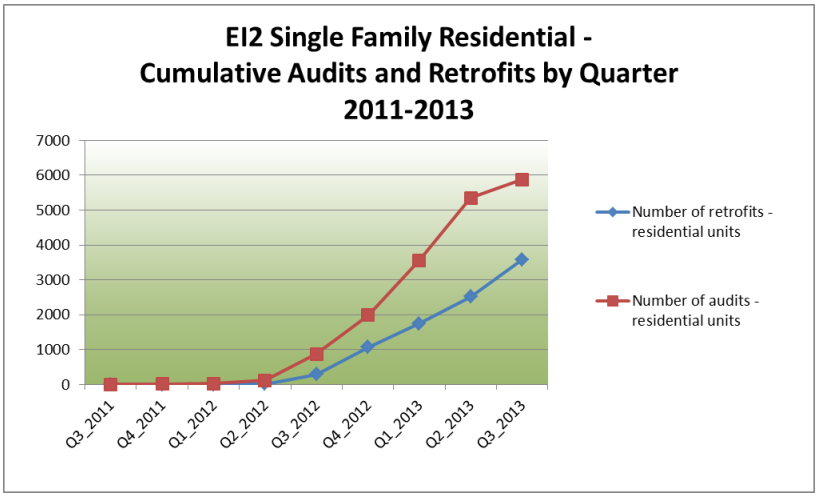
An example of an Illinois Home Performance with Energy Star (IHP) Certificate; provided to all homeowners following completion of a EI2-sponsored retrofit.

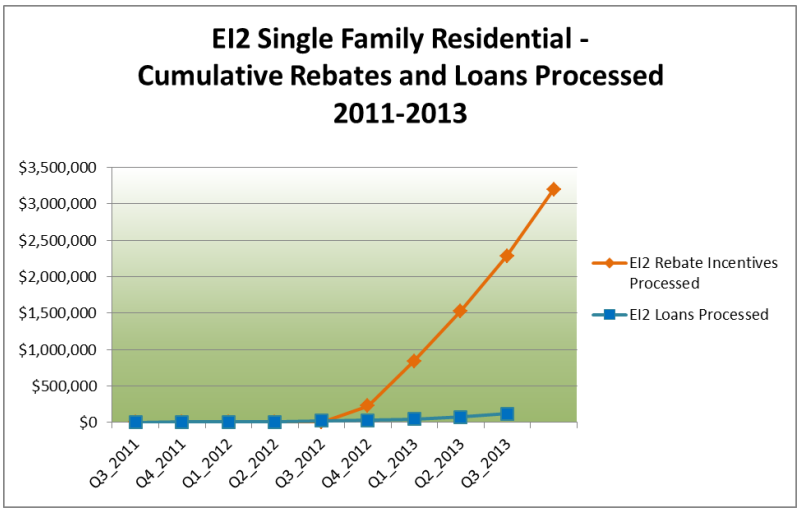
established in an incentive escrow account to fund these incentives, with the remaining funds staying in the LLR.

EI2 was also able to partner with the local utilities (Nicor, ComEd, People's Gas and North Shore Gas) and in August 2012 signed Memorandum's of Understanding (MOUs) so that EI2's rebate incentive for homeowners could supplement and be delivered along with the varied rebates currently being offered by the utilities through their state-derived energy efficiency portfolio programs. This, in addition to a limited rebate incentive through the nonprofit Historic Chicago Bungalow Association (HCBA), allowed for EI2 to deliver a seamless rebate incentive to Chicago region homeowners covering 70 percent of the cost of work up to $1,750 for an EI2 retrofit.

Program Results

Coupling this substantial change in the use of EI2 funds with a newly developed community outreach campaign focused around the Energy Impact "House Parties" and call center (1-855-9-IMPACT), EI2 immediately began to see significant uptake in the program. By the beginning of 2013, the program had retrofitted over 1,000 units and through agreements with DOE extending the period of performance of the program, as of September 30, 2013, EI2 completed over 3,586 units. All told, approximately $3.2 million of EI2 funding went directly to homeowner retrofit incentive costs through this initiative.



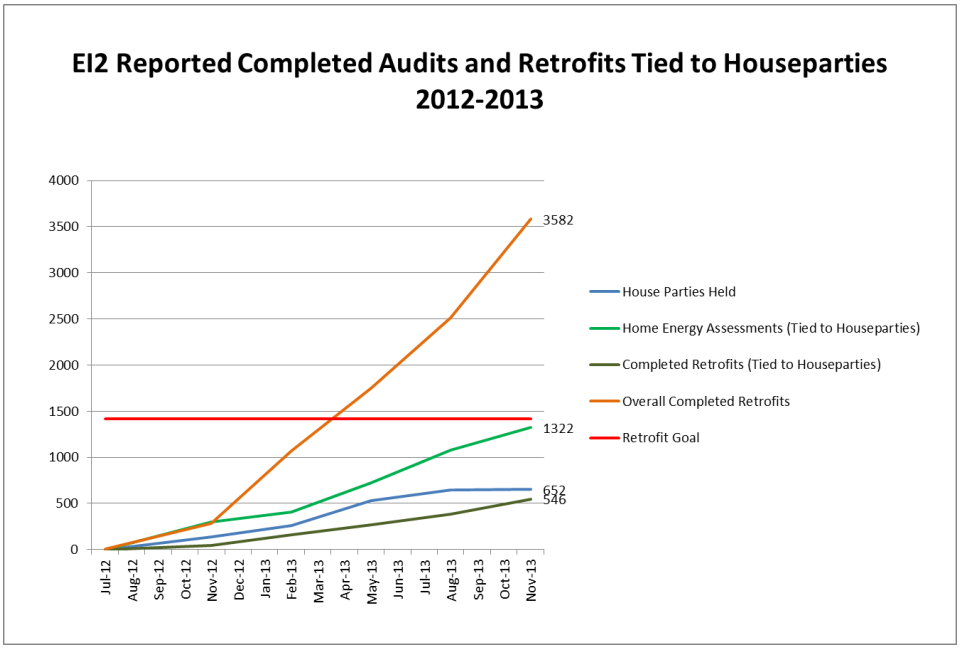


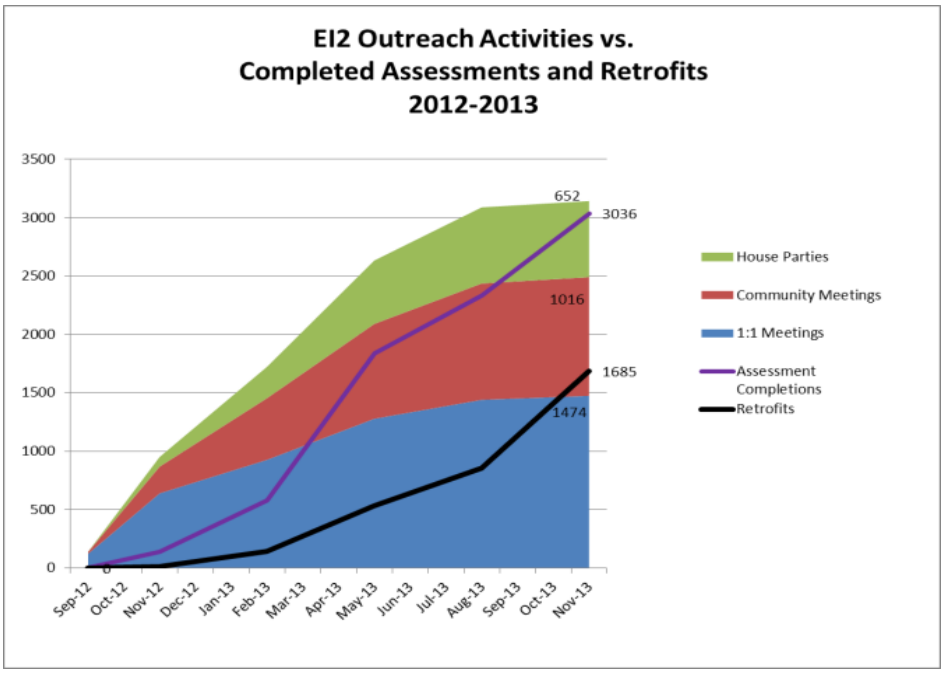
As seen in the previous charts, the conversion of pure financing over to direct consumer rebate incentives was one of the main drivers of retrofit activity following Q2 2012. EI2 did however simultaneously ramp up it field organizer outreach and house party initiative led by CNT Energy and FleishmanHillard – with the new 70 percent up to $1,750 rebate offering being one of the key selling points of the program. It is impossible to tell whether either of these efforts standing alone would have been as effective, but EI2 was able to capture some data over from the beginning of these two initiatives that clearly demonstrates the effectiveness of the combined efforts.

EI2 tracked metrics to determine which incoming audits and retrofits could be attributable to the new outreach and house party effort. Over the course of 2012-13, EI2 completed over 3,000 outreach events, including:

- One-on-One Meetings
- Community Events
- Energy Impact "House Parties"

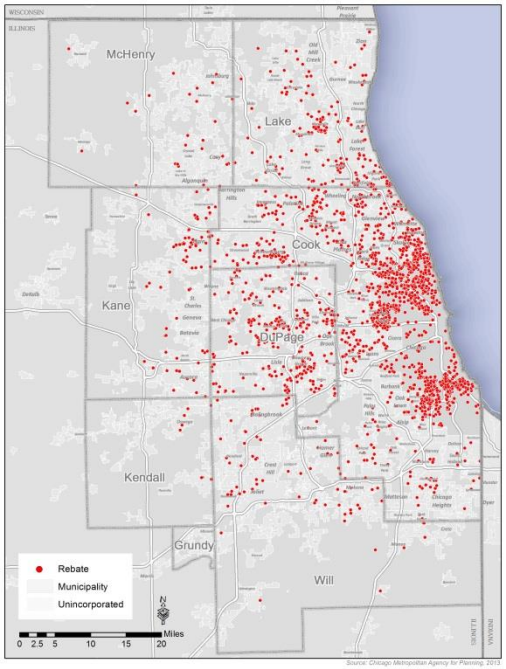
From these events, the program estimates that there have been over 4,600 answered calls in the EI2 call center (1-855-9-IMPACT) and, in total, the program has spoken with over 22,000 people. The following charts show the distribution of some of these numbers over time.



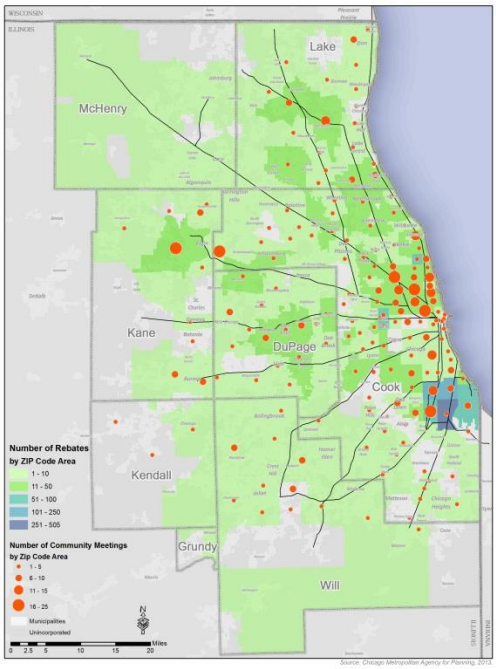


Finally, EI2 was able to utilize CMAP's extensive GIS capabilities to geographically track and analyze some of the trends between rebate issuance and outreach activity. Figure 11 lays out a couple of example maps that show a correlation between the EI2 outreach work completed and the level of uptake of the single-family rebates.

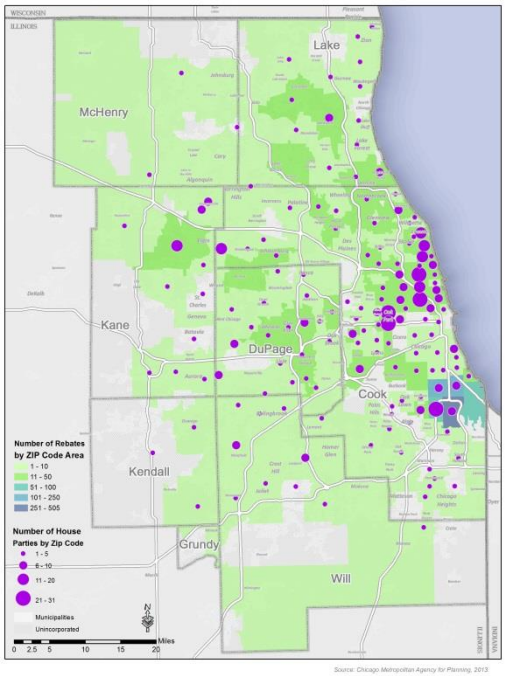
Figure 11: Several Maps Displaying EI2 Outreach Activity versus Single-Family Rebates Issued



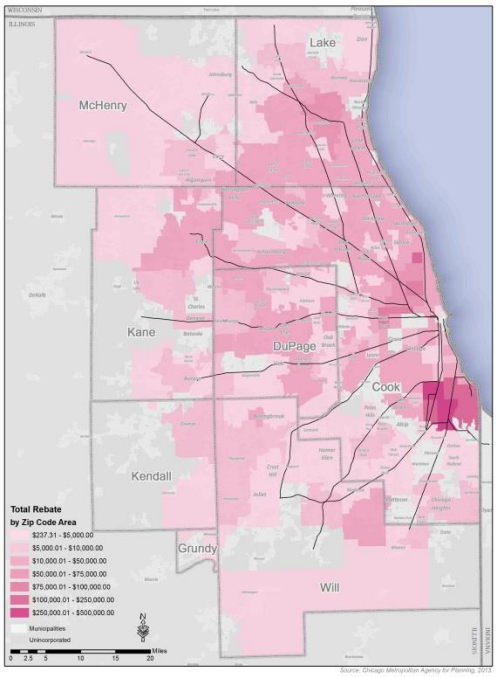
EI2 Single-Family Rebates Issued 2012-13



EI2 Community Meetings vs. Rebates 2012-13



EI2 House Parties vs. Rebates 2012-13



EI2 Total Rebates Issues by ZIP 2012-13

In summary, the Delta Residential Retrofit program initially experienced a difficult challenge in utilizing a financing-only approach to drive retrofits in the Chicago region, however the program was ultimately successful in meeting its goals and contributing a substantial amount of retrofitted units to the overall program totals. Figure 12 provides the final detailed results of the program.

Figure 12: Final Delta Program Results

Program Budget	Expenditures
Subgrantee Adminstration	$ 254,122
Subgrantee Programmatic Costs	
EI2 Contractor Training	$ 64,470
Incentives	
70% up to $1,750 Rebate	$ 3,245,687
House Party Host Buydown	$ 36,154
Interest Rate Buydown (Loans)	$ 16,500
Loan Loss Reserve (LLR)	$ 66,025
Total	$ 3,682,958
Final Results	
Units Completed	3,586
Total Rebates	3,452
Total Amount Rebates Issued	$ 3,245,687
Average	$ 940
Total Loans	25
Total Amount Loans Issued	$ 120,950
Average	$ 4,838
Estimated Energy Savings (BTUs), Annually	136,761,527,076
Kilowatt Hours (kWh)	2,753,490
Therms	1,272,810
Average Percentage Savings	21%
CO2 Equivalent (metric tons)	8,697
-Automobiles off road	1,812
Estimated Cost Savings, Annually	$ 1,490,864
Average per unit	$ 416

Accomplishments

SUBTASK 2.2: Expand residential retrofit financing options.

Develop an unsecured, small capital loan that can be applied for by the customers through the program contractors. EECBG funds will be used as a loan loss reserve or as an interest rate buy down.

GOAL ACHIEVED: Regional energy efficiency loan and rebate incentive program implemented.

- **Delta:** The Delta Residential Retrofit program developed a loan pool by accessing several participating banks and credit unions who served a different segment of the market. The program offered unsecured loans capped at 8 percent interest with a first year interest rate buy down. Up to 10 percent of the loan could be used for related improvements, such as roof replacement, radon or mold mitigation.

- In summer of 2012, in an effort to spur retrofit uptake, EI2 began offering rebates for attic insulation and air sealing projects at 70 percent of the cost of the retrofit, up to $1750, in addition to loans. The program worked with utilities to complement existing incentives, agreeing to pay $500 of the total rebate in the Nicor/ComEd Home Energy Savings (HES) program and a higher percentage in Peoples Gas/Northshore territory based on the calculations they agreed to cover for insulation only. The rebate was instantly applied to the total cost of work, which averaged between $2,000-$4,000; the out of pocket costs to homeowners ranges from $250-$2,250.

    - Number of rebates processed: 3,452
    - Total EI2 rebate funds expended: $3,245,687
    - Loan volume: 25 loans totaling $120,950 ($12,095 in LLR)
    - Interest rate buy-down dollars spent: $6,535

Challenges and Lessons Learned

- *Additional Barriers to Financing Access:* One of the biggest challenges EI2 faced was increasing the uptake of the single-family residential loan product. Approximately six months into the program, only five loans had been taken out. Despite extensive marketing, media mentions, and promotion of the loans by contractors, homeowners were hesitant to take on additional debt for the purposes of energy efficiency retrofits, even with the competitively low loans terms.

  The approval process for loans was also seen as a barrier, particularly when it involved HVAC loans that involved doing a more in depth check and review of applications. Having had a pre-approval process available in a timelier manner may have added loans. In addition, especially after the program began offering extensive rebate incentives, the overall cost of a retrofit was greatly reduced and many homeowners paid the differences out of their own pockets.

- *Lesson Learned*: Focus programmatic funding on reducing the upfront costs of a retrofit (i.e. financial incentives are still necessary). While financing can be a part of any program offering, it should not be viewed as the sole driver of the energy efficiency retrofit market. While the market has moved in a positive direction in the Chicago region over the past several years, it is not yet at a level in which it can self-sustain through homeowner contributions or lending alone.

- *Finding Lenders to Offer and Process Energy Efficiency Loans:* Another challenge was getting more lenders to offer the loan product. The stipulations required by working with a federal grant made many lenders unwilling to participate. Another issue was, as with AFC First, lenders had difficulty meeting the private funding match ratio, which was originally set at 10 to 1, but later reduced. Lenders who were participants in the program struggled with the internal management of the interest rate buy-down. Their software and "truth in lending" requirements did not typically accommodate the interest rate buy-down the program was offering, and the credit unions did not have the capacity to do variable rate loans.

    - *Lesson Learned*: Further effort is needed to convince lenders the benefits of offering residential energy efficiency loans. Exploratory research into local "truth in lending" laws and their effect on energy efficiency financing should be completed early in the program design process.

- *Low Energy Costs, High Winter Temperatures for 2011-13 Period:* Energy costs, particularly in natural gas, were at almost half the national average in the Chicago region.[7] This coupled with two relatively mild winters in the region resulted in an overall reduction in natural gas demand and price. Low prices followed with warm temperatures tended to blunt the message and effectiveness of the energy and costs savings message.

- *Energy Costs and Public Motivation:* It is also arguable that the broader public responds to price signals in a similar manner to gasoline prices and automobile purchases. Until home energy costs reach a pain point that significantly affects a household's monthly budget, interest in making energy efficient retrofits, let alone taking on financing to fund them, remains on the periphery in the residential building sector.

[7] U.S. Department of Labor, Bureau of Labor Statistics, 2003-2013, http://www.bls.gov/ro5/ro5econ1.htm/.

Rockford Residential Rebate Program (Pilot)

The Rockford Residential Rebate Program (RRRP) was a pilot program that was designed to stimulate the residential building energy efficiency retrofit market in the City of Rockford by offering rebates to homeowners who have an energy assessment and work with contractors to complete recommended energy upgrades. As a pilot, it was different from the larger Delta Residential Retrofit program in that it was a "pay for performance" tiered incentive structure – the greater energy efficiency homeowners achieved, the greater rebate amount the homeowner would receive.

Following a competitive bid, Priority Energy (Priority), a small local energy planning, auditing, and contractor training company, was awarded $500,000 as the administrator of the program. In August 2011, Priority became responsible for overseeing the distribution and processing of the all rebates, coordinating contractor visits, and completing the QA/QC inspections of the work performed under the program.

Program Administration

For the Rockford program, EI2, Priority Energy, and EI2's workforce intermediary Centers for New Horizons (CNH) all worked closely to coordinate with the City of Rockford, a partner on the original EI2 grant application. Since Rockford lies outside the seven-county metropolitan Chicago region, there were initial challenges in setting up the retrofitting program as new contractors needed to be identified and organized in addition to the alternative channels for marketing/messaging and program outreach that were required.

After developing appropriate informational materials, employees from the City of Rockford, CNH, along with their subcontractor, the XLA Foundation, conducted 12 roundtable meetings of audiences consisting of community groups, professional associations, elected officials, and residents. The goal was to have meeting attendees filter the details of the Rockford Rebate program to their networks and constituents. XLA also canvassed all 14 wards in the City with program information. The program had several local press mentions and appearances, including the Rockford Register Star, WREX, the Rock River Times, and an interview with EI2 staff on the local cable access program "Something to Talk About." The City of Rockford specifically helped support the program by helping to coordinate meetings, distribute information, and in particular, through mailing of water bill inserts that went out to over 50,000 residents; providing insight and guidance and public support where needed. They also identified an opportunity to host an informational table and helped staff at the Rockford Home Show.

The program officially began on November 1, 2011 as a pilot which served City of Rockford residents. The original program was designed as a direct rebate program and looked to achieve

at least a 15 percent estimated reduction in energy usage in single family residences (one to four units) for a rebate up to $2,000. The program had a slow start with a handful of audits being performed from the program launch through the summer of 2012. As part of the larger EI2 shift towards incentivized retrofit work, the Rockford program was changed to offer a bigger rebate in the fall of 2012, and the number of retrofits jumped quickly, with marketing being driven primarily by the EI2 participating contractors. The revised program required at least 30 percent estimated energy savings, for a rebate up to $15,000, with the estimated average to be around $4,200.

The main contractors who were working in the City of Rockford – Home Focus and Saunders Insulation Specialists – provided an EI2-subsidized audit to customers and then completed retrofit work, deducting the amount of the rebate from the homeowner's final invoice.

The list of eligible measures and the rebate amounts were:

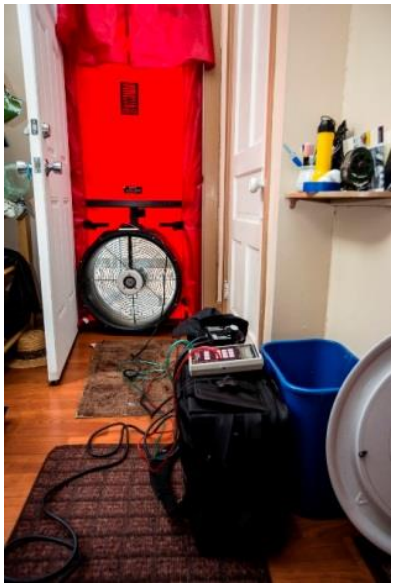
Eligible Measures	Rebate will cover up to (%) of cost	Rebate will cover up to ($)
Air sealing	80%	$1,500
Attic insulation (*to R49 or highest possible for building)*	80%	$1,500
Basement insulation *(includes crawl space)*	80%	$1,500
Wall insulation	80%	$2,500
Furnace or Boiler replacement	50%	$3,000
Central AC replacement *(only with furnace)*	50%	$2,000
Hot water heater replacement	50%	$1,500
Provision and installation of other ENERGY STAR appliances	30%	$1,500
Total		**$15,000**

By April 2013 - the Rockford program had utilized all of its allotted funding. Priority Energy was responsible for performing quality assurance inspections to help maintain the quality and value associated with the IHP and EI2 brands, and to assist participating contractors in improving their techniques and reduce the amount of call-backs. In accordance with IHP protocol, the number of inspections required was dependent upon the number of jobs completed by the contractor, as presented in the following table.

QA Tier	IHP Job Number	Inspection Rate
Tier One	First 3-5 jobs	100%
Tier Two	4 of the next 20 jobs	20%
Tier Three	All following jobs	5%

The process for the QA inspections followed the EI2 reporting form. Priority performed a blower door test post retrofit and checked against the preliminary cubic feet per minute (CFM).

They also inspected the quality of the work, and performed a combustion safety test before leaving the home. Priority checked the paperwork to make sure the rebate offered match what was given, and they checked the REM rate field summary against the report issued by the contractor and if they did not match, they would contact the contractor to clarify and make adjustments as needed.



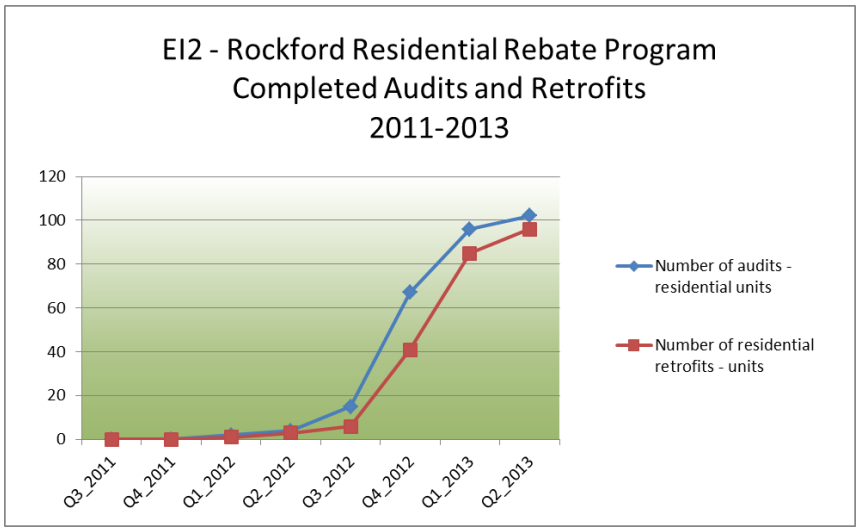
While the deep rebate incentives were the main driver for the program, EI2's residential loan program contracted with Members Alliance, a local credit union, to offer the EI2 loan product. Specific to Rockford, the minimum loan amount was $500, and the maximum was subject to the member's ability to repay. The loan had a maximum term of five years and offered a competitive, low-interest rate capped at 8 percent. Members Alliance declined to participate in the interest rate buy down, where EI2 offered to pay the first year's interest on the loan, because of their interpretation of regulatory and truth-in-lending requirements in the state. By the close of the program however, no loans had been taken out in the City of Rockford, with most homeowners covering any difference between the rebate they received and that invoiced cost of the retrofit out-of-pocket.

Program Results

After a slow start, the pilot was able to finish at over 100 retrofits, which is nearly double the revised goal set following the large increase in per-rebate spending. The two participating contractors that worked in Rockford were able to expand their businesses to keep up with demand. One of the contractors hired approximately 15 more employees with plans to hire 14 more in the next year. The program helped raise awareness of the importance of energy efficiency in Rockford, and created a market for the contractors to continue working after the close of the program.

Of the $500,000 awarded to Priority Energy, $431,200 was to be used for the rebates, $28,700 for audit buy downs, and $40,100 for Priority's administration fees – comprised of a $625 per QC inspection, and $300 per rebate processed.

As is shown in the following charts, introduction of the substantial rebate into the Rockford program coupled with active participant contractors who pushed the program really helped drive retrofits. On average, participants in the programs saved and estimated 35% savings over their baseline energy use.



Program Budget	Expenditures
Subgrantee Adminstration	$ 27,000
Subgrantee Programmatic Costs	
QA/QC Review	$ 13,125
Incentives	
Audit Buydowns	$ 28,700
Rockford Retrofit Rebate	$ 431,175
Total	$ 500,000
Final Results	
Units Completed	96
Total Rebates	96
Total Amount Rebates Issued	$ 431,175
Average	$ 4,491
Estimated Energy Savings (BTUs), Annually	8,739,474,432
Kilowatt Hours (kWh)	68,339
Therms	85,006
Average Percentage Savings	35%
CO2 Equivalent (metric tons)	500
-Automobiles off road	104
Estimated Cost Savings, Annually	$ 56,053
Average per unit	$ 584

Program Accomplishments

SUBTASK 2.2: Expand residential retrofit financing options.

Develop a program that leverages the Illinois Association of Energy Raters and contractors trained in Home Performance with Energy Star. Incentives will be provided to unit owners based on the energy efficiency increase achieved. The EECBG funds will be used as a grant to reimburse a portion of home retrofit costs.

GOAL ACHIEVED: Rockford rebate program implemented and expanded to provide deep retrofit (30 percent plus energy savings savings) opportunities.

- The original rebate offered by the Rockford Residential Rebate Program, while initially tied to the amount of estimated energy savings, was later revised to offer more significant savings, up to $15,000, depending on the work and eligible measures done, along with a reduced audit cost of $99.

    - Number of retrofits completed: 96
    - Total EI2 rebate funds expended: $430,574
    - Average rebate: $4,200
    - Estimated Average Percentage Energy Savings: 35%

Challenges and Lessons Learned

- Enrolling Contractors to Work in Rockford: Two whole-home contractors and two HVAC contractors participated in the program, and the two whole-home contractors were responsible for the overwhelmingly majority of the retrofits done. Across the whole EI2 program, participating contractors were required to be both BPI and IHP certified. While the additional certification proved to be a barrier across the entire region, there was noticeable lack of IHP certified contractors in the Rockford area. Another issue for program participation was that the program was temporary and would be complete relatively quickly (May 2013). Contractors were not aware of who EI2 was as the overall program was new to the region, and not having an established brand or name made it difficult to recruit contractors.

    - *Lesson Learned:* Providing benefits like covering the costs of some contractor certifications may help in obtaining and retaining a qualified workforce.

- *Contractor Work Quality Lacked Uniformity*: There were some concerns with one of the contractors who performed work in the City of Rockford. Priority identified incorrect combustion safety test results in their QA/QC assessments of work done, as well as issues with reporting and using program software. They worked with the contractor, who worked diligently to correct the problems

noted; the contractor also worked with his staff to make sure they were educated on proper testing and making sure the reporting was correct.

- *Lesson Learned:* This challenge underscores the point of having a rigorous QA/QC process. Many of the activities involved with retrofitting involve adjusting and fixing variables with the health, comfort, and safety of homes, and it is important to have the right staff, equipment, and compliance protocols to make sure the program achieves the highest level of performance.

- *Subgrantee Capacity:* The expectations CMAP had of program delivery proved challenging at times for Priority Energy. Many administrative aspects of running the Rockford program (e.g. program partner relationships and coordination, monitoring and processing of rebates, consistent compliance with terms and conditions of the grant, and preparation for eventual ramp-up in customer inquiries and retrofits) were not as strong with Priority Energy as they were with other subgrantees.

Metropolitan Planning Council Employer-Assisted Housing Retrofit Program (Pilot)

Employer-assisted housing is a tool to allow employers to assist employees in buying or renting homes close to their workplace. A key goal of this to strengthen financial stability for workers, including foreclosure prevention when provided in tandem with counseling. In the Chicago region, this benefit option has been particularly popular with larger institutional organizations like schools and universities, which directly benefit from having staff close to and participating in the local community.

EI2 looked to build a pilot off of these existing programs, by providing upfront EI2 capital for grants or loan to pay for energy efficiency for single-family retrofits. If the terms of the loan are met (e.g. number of years employee stays with the employer), the loan would be forgiven. The main goal of the employer-assisted housing retrofit program (EAHR) was to gauge the effectiveness of employers as a delivery mechanism for residential retrofits.

Launched in September 2011, the EI2 EAHR Program was a pilot program designed to strengthen the financial stability for interested employees of participating employers by lowering housing and home energy costs and providing education counseling on these activities. After a competitive bidding process, on April 29, 2011, a contract was signed with the Metropolitan Planning Council (MPC) to administer the program and provide a retrofit incentive (originally up to $3,000) to each employee participating in the program, which would in turn leverage additional retrofit dollars through a match (also $3,000) from participating employers. The budget for the program was $500,000, which included $50,000 for administrative costs, and $450,000 for project matches. The goal of the program was to complete 150 projects by May 2013.

Program Administration

The effort set up through EI2 complimented MPC's existing Regional Employer Assisted Collaboration for Housing (REACH) program, which assists employers in helping their employees buy or rent homes close to work. EAHR would help the segment of employees who already owned homes. Due to a pre-existing relationship, Thornton Township signed on as the first employer immediately after the program launch. Two additional employers – Webb de Vlam and Robinson Engineering – signed onto the program during its existence. The program found it challenging to sign on additional participants, including two larger organizations that had been expected to participate and enroll a large number of employees into the program – University of Chicago and Chicago Public Schools. Their inability to participate was primarily caused by recent staff turnover and budgetary constraints.

MPC acted as the facilitator for an employee going through the program, relieving the necessity of an employer becoming an energy efficiency expert. The application process is outlined as follows:

1. Employees submitted an application to their HR department for eligibility screening.
2. Eligible employees were referred to MPC staff, who provided a program overview contractor referrals.
3. The employees would have an audit conducted, which ranged from $200 to $500.
4. MPC would review audit findings with the employee and determine work scope.
5. Participating contractors completed work and MPC paid them directly for the improvements. The employer then pays MPC their match portion and the employee pays their employer back over time.

By July 2012, MPC had only completed a couple of retrofits, and the two largest employers they had been depending on to offer the pilot pulled out. That August, with the prospect of much fewer participants enrolling in the program, EI2 changed the scope of the pilot to achieve a new goal of completing 15 projects through the three participating employers – Webb de Vlam, Robinson Engineering, and Thornton Township. Total maximum compensation for the pilot was reduced to $70,000: $10,000 of the funds provided by CMAP were to be used for development and outreach of the program, $45,000 to be disbursed for the retrofits; and technical assistance, and administration of the retrofits for MPC at $1,000 per retrofit. On October 9, 2012, a second amendment was executed to change the maximum amount of a match that could be given from $3,000 to 50 percent of the retrofit activity.

Program Results

The program completed three audits and four retrofits with the total matching funds from EI2 at $10,323.97. Despite the numerous changes to try and spur interest in the program, the pilot was terminated in January 2013 for lack of participation. Figure 13 shows the overall results for the program.

Figure 13: Employer-Assisted Housing Retrofit Program Results

Program Budget	Expenditures
Subgrantee Adminstration	$ 14,000
Incentives	
EI2 / MPC Matching Funds	$ 10,324
Total	$ 24,324
Final Results	
Units Completed	4
Total Loans (forgivable)	4
Total Amount Loans Issued	$ 10,324
Average	$ 2,581
Estimated Energy Savings (BTUs)	232,049,066
Kilowatt Hours (kWh)	790
Therms	2,292
Average Percentage Savings, Annually	28%
CO2 Equivalent (metric tons), Annually	13
-Automobiles off road, Annually	3
Estimated Cost Savings, Annually	$ 2,310
Average per unit	$ 578

Accomplishments

SUBTASK 2.4: Explore and support emerging financing options in the region: Employer Assisted Retrofit Financing.

Employer assisted housing is a tool to allow employers to assist employees in buying or renting homes close to their workplace. A key goal is to strengthen financial stability for workers, including foreclosure prevention when provided in tandem with counseling. An energy retrofit fund will build off of these existing programs, and will provide forgivable loans to pay for energy efficiency retrofits. The EECBG funds will be used as a grant and/or to capitalize a revolving loan fund.

GOAL ACHIEVED: EI2 set up EAHR pilot program through MPC subgrantee.

- The Employer-Assisted Housing Retrofit pilot program, a uniquely design option for the Chicago region, was designed to help employees of participating employers complete retrofits through an incentive match program, with $3,000 coming from the EAHR program and up to $3,000 from the employer. The program assisted 4 homeowners and signed up 3 employers to offer the program, with a total match of $10,324.

Challenges and Lessons Learned

- *Pilot Program Aimed at Too Few Employers:* MPC had originally based its retrofit projections on the understanding that the two largest REACH employers, Chicago Public Schools and the University of Chicago would be modifying their existing programs to include the EAHR program. Because of the budgetary constraints and staff changes, they were unable to reach an agreement, and the EAHR was forced to revise the program's ability to meet its initial goals. Furthermore, attempts to recruit new employers were hampered by a lack of perceived value in the employee benefit. EAHR did not directly link to an employees' ability to perform work, such as a transit or health benefit would.

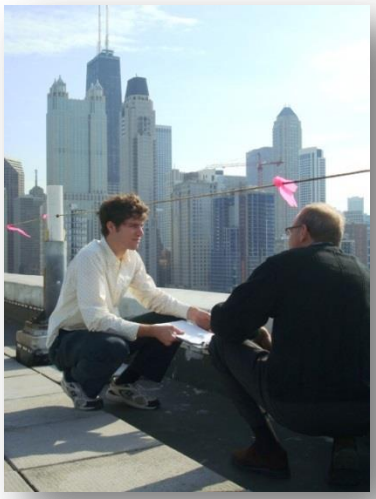
    - *Lessons Learned*: Energy efficiency as an employer-provided benefit has yet to gain a critical value in the Chicago region. Specifically, larger organizations such as the Chicago Public School District and the University of Chicago initially indicated plans to participate but failed to commit when faced with prioritizing employee benefits during a constrained budgeting year. Unfortunately EAHR was not at the top of their list, despite recognition that the program provided a valuable benefit to employees who did participate. Because of these types of unforeseen budget considerations, and the extensive upfront administrative costs to market this program, MPC stated that they would not consider a program like this again.

Multifamily Residential Programs

Multifamily housing in the Chicago region was a second key building sector that EI2 focused on during the grant period. A quarter of all housing in the region consists of multifamily complexes greater than five units, and given that half of all buildings in the region were built before the 1970s – before modern energy codes were instituted – there remains a great deal of multifamily building stock in need of retrofitting work.[8]

[8] Center for Neighborhood Technology (CNT Energy), *Chicago Regional Energy Snapshot: Profile and Strategy Analysis*, http://www.cntenergy.org/media/Chicago-Regional-Energy-Snapshot.pdf , (September 2009).

Multifamily as a building sector also faces different challenges when it comes to energy efficiency. There is the significant difference in HVAC equipment design/uses and architectural specifics between large and small buildings, whether units within the building are owned and rented, the splint incentive challenge with building owners,[9] in addition to many other issues that make a one-size fits all application of an energy efficiency program across the sector an elusive task.



An EI2/CNT Energy staff member, Peter Ludwig and contractor Peter Condich discussing rooftop HVAC equipment.

In response to these challenges, EI2 looked to provide as many options as possible to the multifamily sector in the region, and developed the following two multifamily programs over the course of the grant:

- **Energy Savers Multifamily Program:** An existing multifamily program run through a partnership between the Community Investment Corporation (CIC) and the Center for Neighborhood Technology. EI2 funds would expand on the program to allow for further reach into the seven-county region.

- **Multiunit Retrofit Improvement Loan Program (MURIL) – City of Chicago / Village of Oak Park (Pilot)**: A revolving loan fund that utilized EI2's funding to provide supplemental energy efficiency equipment to already existing CDBG/HOME rehabilitation projects through HUD.

This section reviews additional details about these two multifamily programs and their efforts through the EI2 grant.

Energy Savers Multifamily Program

For its first financing RFP, EI2 looked to the multifamily sector to develop a program that provided auditing and technical assistance services along with appropriate financing to support multifamily buildings owners looking to make energy efficiency improvements. During solicitation, EI2 received only one application from Energy Savers, a program led by the Community Investment Corporation (CIC), in partnership with CNT Energy. CIC is a leading Chicago multifamily rehabilitation lender that provides a reliable source of financing for the acquisition, rehabilitation, and preservation of rental housing. The organization's lending

[9] McKibben, Anne, Center for Neighborhood Technology (CNT Energy), *Engaging as Partners: Introducing Utilities to the Energy Efficiency Needs of Multifamily Buildings and Their Owners*, http://www.cntenergy.org/media/CNT_ACEEE-Report-2013-Final.pdf, (March 2013).

encourages other new investment and gives tenants, landlords and neighbors a renewed sense of pride and confidence in their Chicago neighborhood or suburban community.

Following review and scoring by members selected from CMAP and the Steering Committee, EI2 made the initial award of a $1.5 million LLR. CMAP contracted with CIC at the beginning of March 2011 to expand their currently existing program from Cook County to include the remainder of the seven-county CMAP region. The original anticipated goals of the program were retrofitting at least 1,500 units and creating a loan pool of at least $4.5 million backed by the EI2 LLR.

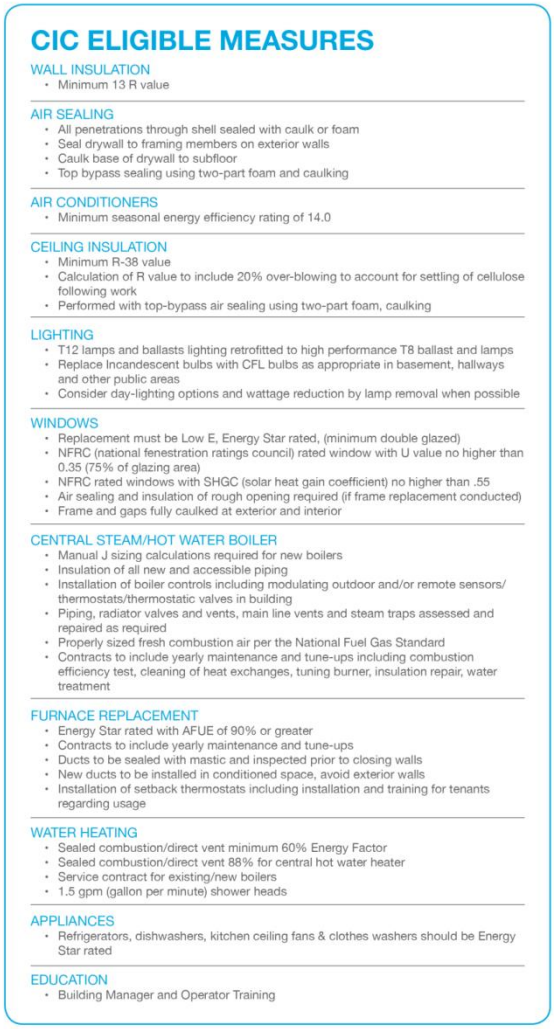
The key tasks for CIC were develop, deploy, manage and evaluate all key components of the Energy Savers Loan Loss Reserve Fund in accordance with ARRA and EECBG, and included:

- Developing forms for use in the loan application process, loan disbursement and reporting.
- Establishing a Loan Pool and partner with other financial institutions (where appropriate).
- Underwriting below market rate loan products and terms to multifamily building owners for retrofit activities through the loan pool.
- Recruiting and enrollment of buildings into the loan program
- Managing the loan portfolio, executing loan agreements, and ensuring timely loan payments of the loan pool.
- Coordinating the timely and efficient expenditure of EI2 program funds.
- Demonstrating the benefits of an energy efficiency retrofits in the multifamily housing sector.
- Overseeing all retrofit activity including contractor selection and management.

The target audience for this program was building owners that had five or more units and had affordable rents per the Illinois Housing Development Authority (IHDA) guidelines. Minimum loans were $25,000 with the maximum being $500,000, although larger could be requested and negotiated with between CIC and CMAP.

Through its partnership with CNT Energy, CIC utilized CNT's staff and expertise in the multifamily sector to review eligible projects as well as scope out the technical recommendations per project so that 15 percent energy savings was achieved. CIC was then responsible for consolidating and making available private sector funds for actual loans. This loan pool consisted of $4.5 million in contributions by Bank of America and the MacArthur Foundation which would be backed by EI2's $1.5 million LLR. Figure 14 on the following page displays the list of measures that are considered eligible when completing a multifamily retrofit through Energy Savers.

Figure 14: Community Investment Corporation Eligible Measures



CIC ELIGIBLE MEASURES

WALL INSULATION
- Minimum 13 R value

AIR SEALING
- All penetrations through shell sealed with caulk or foam
- Seal drywall to framing members on exterior walls
- Caulk base of drywall to subfloor
- Top bypass sealing using two-part foam and caulking

AIR CONDITIONERS
- Minimum seasonal energy efficiency rating of 14.0

CEILING INSULATION
- Minimum R-38 value
- Calculation of R value to include 20% over-blowing to account for settling of cellulose following work
- Performed with top-bypass air sealing using two-part foam, caulking

LIGHTING
- T12 lamps and ballasts lighting retrofitted to high performance T8 ballast and lamps
- Replace Incandescent bulbs with CFL bulbs as appropriate in basement, hallways and other public areas
- Consider day-lighting options and wattage reduction by lamp removal when possible

WINDOWS
- Replacement must be Low E, Energy Star rated, (minimum double glazed)
- NFRC (national fenestration ratings council) rated window with U value no higher than 0.35 (75% of glazing area)
- NFRC rated windows with SHGC (solar heat gain coefficient) no higher than .55
- Air sealing and insulation of rough opening required (if frame replacement conducted)
- Frame and gaps fully caulked at exterior and interior

CENTRAL STEAM/HOT WATER BOILER
- Manual J sizing calculations required for new boilers
- Insulation of all new and accessible piping
- Installation of boiler controls including modulating outdoor and/or remote sensors/ thermostats/thermostatic valves in building
- Piping, radiator valves and vents, main line vents and steam traps assessed and repaired as required
- Properly sized fresh combustion air per the National Fuel Gas Standard
- Contracts to include yearly maintenance and tune-ups including combustion efficiency test, cleaning of heat exchanges, tuning burner, insulation repair, water treatment

FURNACE REPLACEMENT
- Energy Star rated with AFUE of 90% or greater
- Contracts to include yearly maintenance and tune-ups
- Ducts to be sealed with mastic and inspected prior to closing walls
- New ducts to be installed in conditioned space, avoid exterior walls
- Installation of setback thermostats including installation and training for tenants regarding usage

WATER HEATING
- Sealed combustion/direct vent minimum 60% Energy Factor
- Sealed combustion/direct vent 88% for central hot water heater
- Service contract for existing/new boilers
- 1.5 gpm (gallon per minute) shower heads

APPLIANCES
- Refrigerators, dishwashers, kitchen ceiling fans & clothes washers should be Energy Star rated

EDUCATION
- Building Manager and Operator Training

During the first year of the program, a number of projects came into the pipeline and became some of the first loans and retrofits that the EI2 program completed. Marketing for the program was largely driven by CIC through outreach and presentation activities across the region including organizations like Metropolitan Mayors' Caucus, Community Development Staff of several counties, Illinois Housing Council Annual Conference, and the Chicago Housing Authority Symposium. The program also held meetings with various stakeholders in the region, such as the Executive Director of SSMMA, Rockford Area Affordable Housing Coalition, City of Rockford Community Development staff, and the Mayor's Innovation Delivery Team. CIC and Energy Savers were also featured in Northern Illinois Real Estate Magazine twice, received an Urban Land Institute Vision Award in 2012, and presented on their nationally-recognized multifamily model at many DOE-sponsored and other energy efficiency conference.

Despite initial successes in getting projects started, it became increasing clear that Energy Savers was not completing retrofits at a rate that would put them in line with achieving their goal numbers by the end of the grant period. In July 2012, an additional $1 million, reallocated from EI2's SCIenergy commercial program, was reallocated to the LLR to make available additional

private funding, raising the total loan pool to $5.5 million through added investment by Bank of America.

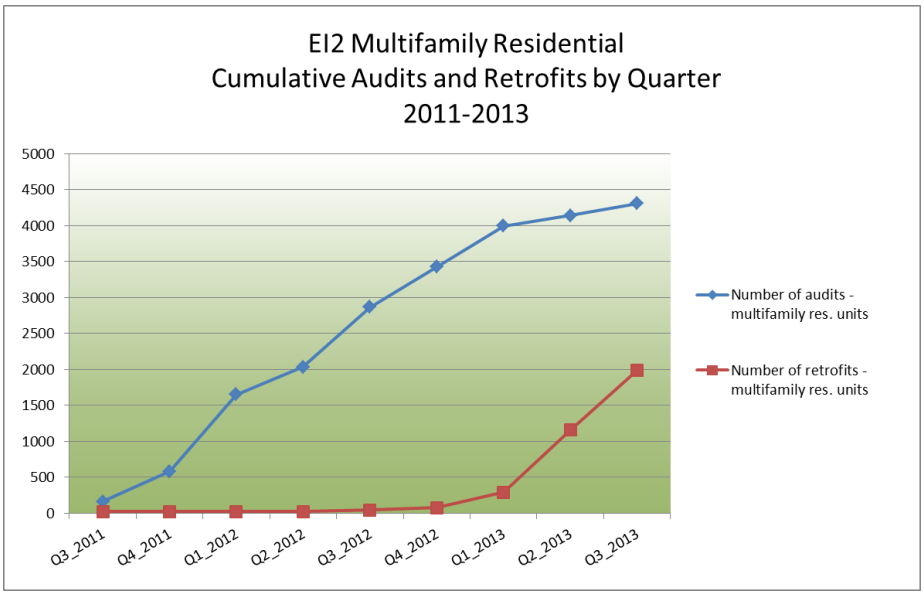
Additionally, as part of the larger effort to increase retrofit completions through use of incentives, EI2 worked with Energy Savers to identify whether there was opportunity to move forward with incentivized multifamily retrofits. This resulted in EI2 being able to tackle one of the larger barriers to multifamily building owners taking on retrofitting work in the Chicago region: the prohibition of additional debt on a property that is subject to first-lien debt (usually a mortgage). Multiple building owners had submitted applications to the Energy Savers program, but were not able to take out loans because of this requirement. EI2 thus saw an opportunity to utilize incentive funds to help these building owners move forward with work.

Starting in December 2012, $1 million was reallocated to multifamily incentives from EI2's commercial program. Nonprofit building owners were allowed up to 100 percent of the retrofit cost to be covered, while for-profit building owners were capped at 50 percent. Demand immediately jumped, mostly because CIC had a back log of properties that they had already been working with. After it was clear that demand for this incentive would be strong, EI2 allocated a final $1 million to the incentive program. The net result for this effort was an additional 1,550 units being counted under the EI2 program in addition to the 434 that were constructed through loans by September 2013.

Program Results

Energy Savers utilized both loans and incentives to bring about a substantial amount of multifamily work to the Chicago region. While the decision-making process ended up being longer and more complex that EI2 had envisioned, the program maintained a strong and steady pipeline throughout the program duration and were diligent about their reporting requirements. As of September 30, 2013, the program has completed audits of over 5,960 units, in 168 buildings and completed retrofits in over 1,980 units, in 61 buildings. 13 loans, totaling $1,132,786, were taken out and the program utilized over $2 million in rebates and incentives. Due to loan volume, the program should see a reflow of at least approximately $250,000-$300,000 per quarter going forward. The cumulative cost savings was $568,000 annually among all participants

The following chart and table display the results of the program by quarter. Note again that while the completed retrofits tally is at 1,984 through 9/30, multiple projects totaling about 1,078 units are funded through loans and are currently in construction with completion estimated for Q1 2014.



Program Budget	Expenditures
Subgrantee Adminstration	$ 200,000
Incentives	
Multifamily Rebate	$ 2,069,035
Financing	
Loan Loss Reserve (LLR)	$ 2,500,000
Total	$ 4,769,035
Final Results	
Units Completed	1,984
Total Rebates	50
Total Amount Rebates Issued	$ 2,069,035
Average	$ 41,381
Total Loans	13
Total Amount Loans Issued	$ 1,132,786
Average	$ 87,137
Estimated Energy Savings (BTUs)	54,255,584,843
Kilowatt Hours (kWh)	386,051
Therms	529,029
Average Percentage Savings, Annually	20%
CO2 Equivalent (metric tons), Annually	645
-Automobiles off road, Annually	134
Estimated Cost Savings, Annually	$ 567,634
Average per unit	$ 286

Accomplishments

SUBTASK 2.2: Expand residential retrofit financing options.

Develop a loan program for multi-family rental building owners to obtain financing to retrofit their units. The EECBG funds will be used to capitalize a revolving loan fund or be used as a loan loss reserve.

GOAL ACHIEVED: CIC Energy Savers program completed multifamily units totaling $1.3 million in loans and $2 million in direct multifamily incentives.

- CIC expended all LLRs and incentive funds and completed construction on a total of 58 buildings (1,984 units) up until 9/30/2013. An additional 1,078 units through loans issued in early 2013 are due for completion by Q1 2014.

- Energy Savers looks to be the first financing program within EI2 to have active reflow (from previous loans made) being directed back into the program. Currently, reflow will be added back into the LLR's escrow account on a quarterly basis for further loans to be made.

- To date, there have been no defaults on loans made.

Challenges and Lesson Learned

- Existing energy efficiency programs that received supplemental ARRA-related funds were subject to multiple local jurisdictions' timelines and approval processes.

    - *Lesson Learned*: Despite best intents, federal programs must be flexible with the frameworks of existing programs, or run the risk of losing willing participant organizations.

- For multifamily rehabilitation, there is a long lag-time between generating potential leads, building audits, scoping of work, approval of loans, and completion of construction.

- *Prohibition of Subordinate Debt to First-Lien Debt is a Significant Issue in the Multifamily Housing Sector:* Many buildings owners are willing to utilize financing, but are unable to because of the prohibitions. EI2 was able to use incentive funds to help a few building owners move forward with the process, but this is a broader policy issue that must be addressed with local finance institutions.

- Marketing and outreach in the multifamily sector requires a more fine-tuned approach geared towards building owners and the various associations,

government agencies, and nonprofits dedicated towards multifamily housing maintenance and rehabilitation.

Multiunit Retrofit Improvement Loan Program (MURIL)
City of Chicago / Village of Oak Park (Pilot)

In addition to the Energy Savers program, EI2 looked to provide resources for multifamily housing with a low-to-moderate income affordability component. Within the Chicago region there are currently a number of housing rehabilitation programs administered by municipalities that participate in Community Development Block Grant (CDBG) and Home Investment Partnership (HOME) programs organized through the US Department of Housing and Urban Development (HUD). EI2 looked to offer supplemental loan funding to these types of programs by adding an energy efficiency component to projects in a currently existing pipeline. By layering energy efficiency loans onto existing construction work, the program looked to: 1) expeditiously allocate recovery funds to projects that were already underway, and 2) reduce transaction costs so that participants will achieve greater energy savings over the long term. The resulting program became known as the Multiunit Retrofit Improvement Loan Program or MURIL.

In early 2011, EI2 solicited an Invitation to Participate (ITP) for municipalities with currently existing CDBG, HOME, or similar affordable housing rehabilitation programs that had identified projects that would immediately benefit from supplemental funds for energy efficiency improvements. The $1.25 million in funds for this program was structured as a revolving loan fund (RLF), to be administered by the applicants, and once approved; municipalities would be able to submit a reservation of funds request as projects were identified. From this ITP, EI2 received three applicant municipalities, of which two were deemed qualified CDBG/HOME program administrators: the City of Chicago and the Village of Oak Park. By May of 2011, both municipalities had completed contracts with CMAP and had identified projects that would utilize the full $1.25 million.

The scope of the program was:

- Development, deployment, management, and evaluation of all key components of a Multi-Unit Retrofit Improvement Loan Program in accordance with ARRA and EECBG, and in coordination with existing CDBG, HOME or related multi-unit rehabilitation programs.
- Loan origination and administration.
- Oversight of all retrofit activity, including contractor selection and management.
- Recruitment and enrollment of building owners into loan program.
- Reporting and compliance with all applicable Federal, State and local laws, codes, and regulations.

City of Chicago – Department of Housing and Economic Development

In 2010, the City of Chicago Department of Community Development, which later would become the Department of Housing and Economic Development (DHED) following the transition of the newly elected mayor, had projected expenditures in excess of $249 million to create or preserve over 2,400 units of affordable rental housing in the City of Chicago. To accomplish these goals, DHED utilized resources from HUD's Community Development Block Grant (CDBG) and HOME Investment Partnerships Programs, as well as multiple City of Chicago tax credits, revenue bonds, and fee waiver initiatives that help support affordable housing.

EI2 began its MURIL program with DHED in June 2011 and focused on a set of three buildings that were detailed by DHED in their application for the Invitation to Participate (ITP) process. The initial amount awarded to DHED was $745,000, however the original program budget allotted for $1.1 million. After working with DHED staff to make sure that they had the correct amount of funds and the right types of projects identified, the full $1.1 million was obligated to DHED on November 4, 2011. During the course of the pilot, two projects, Pullman Wheelworks and 4800 S. Calumet, did not meet some of the specific guidelines that were set out in the projects' original scope, and therefore had EI2 funds de-obligated from the project. The final projects, their loan award amounts, and their units included the following:

Project	Original Units	Final Units	Original EI2 Awarded Loan Funds	Final EI2 Awarded Loan Funds
Renaissance Apts.	117	117	$ 292,500	$ 292,500
Churchview Manor Senior	60	60	$ 150,000	$ 150,000
Borinquen Bella	47	47	$ 117,500	$ 117,500
Pullman Wheelworks	210	210	$ 525,000	$ 82,200
4800 S. Calumet	6	-	$ 15,000	$ -
Total	440	434	$ 1,100,000	$ 642,200

Program Delivery

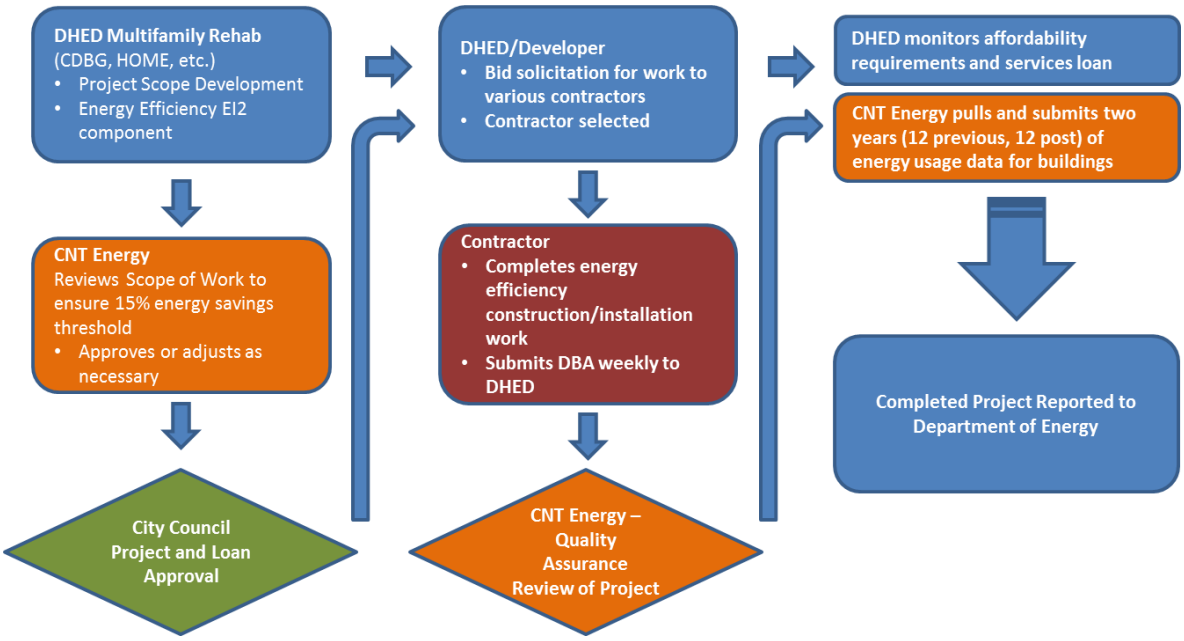
Once EI2 funds were approved for use, DHED worked with the specific properties and their associated developers to develop a scope of work for the rehabilitation project, including the portion of that project that was to be dedicated to at least 15 percent energy savings and funded through EI2 loans. Through the terms of the EI2 program, loans could be made to each of these properties for the purpose of increasing building energy efficiency during building rehabilitation by adding any or all of the following measures:

- Wall, ceiling, and attic insulation
- Energy efficient lighting
- Heating, venting, and air conditioning (HVAC) and high-efficiency shower/faucet upgrades
- Air sealing

- Purchase and installation of Energy Star appliances

Once the project scope was developed between the eligible borrowers (multifamily building owners that receive CDBG, HOME, or other similar affordable housing program contributions through DHED), CNT Energy utilized internal staff that are experts in multifamily energy efficiency upgrades to review and approve the scope of work. The developer for the project then solicited bids to contractors to perform the work as laid out in the scope, and once a contractor was chosen, each of the four projects that were eventually completed through this program moved from City Council approval to completed construction within a year timeframe. The following is a high-level overview of the MURIL pilot program process flow map:

General Process Flow Map of EI2 / City of Chicago DHED - MURIL Program



Loan Program Terms

Loans issued through DHED's MURIL program were bundled with the non-energy construction loan portion of the rehabilitation projects. The maximum loan was $2,600 per multifamily unit on any given project, with the smallest loan being $82,200 and the largest being $292,500. The interest rate ranged between 0-3 percent and the term length on each loan ranged between 3-32 years based on historical affordable housing lending relationships that DHED has with the multifamily residential community. There was no prepayment penalty for loans paid off early, and loan origination, oversight, and servicing fees were not to exceed 5% of the loan amount. Owners who utilized the EI2 funds through DHED have to maintain the affordability component within the building for at least five years, after which time DHED may at its discretion consider the loan forgiven. However, if the owner violates the affordability component, the loan amount is due back to DHED to be re-loaned for other viable projects.

Quality Assurance and Monitoring

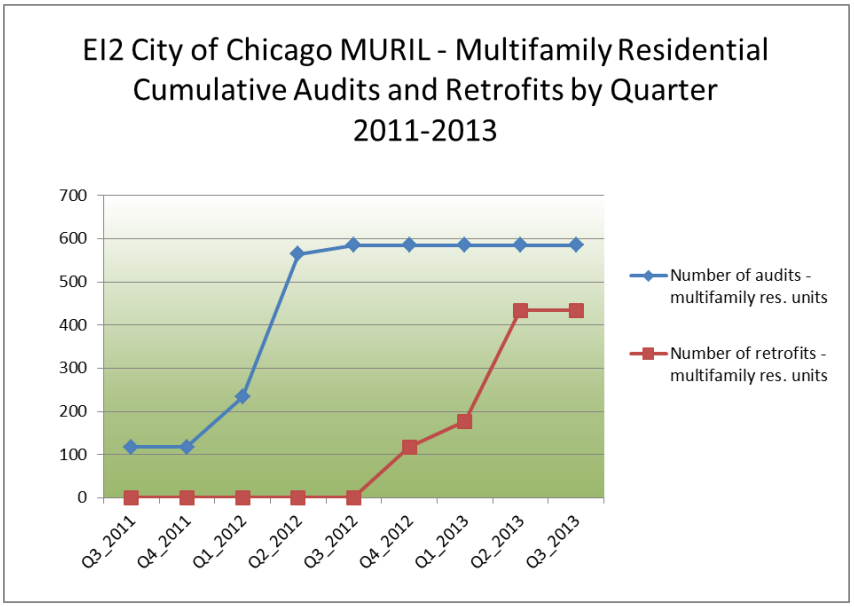
Following each project, CNT Energy sent trained multifamily retrofit inspection staff to each of the building sites to conduct quality assurance review and determine whether all work, as laid out and approved in the project scope, was properly installed and functioning. If there were issues, CNT staff would alert DHED and the associated developers so that they would be able to fix any outstanding issues before final payment of the loan funds was disbursed.

In addition to the per-project monitoring, at the beginning of the grant period, City of Chicago DHED was provided a Performance Monitoring Plan (PMP) that laid out the framework for managing key technical, schedule, compliance, and cost risks associate with the EI2 projects.

Twice over the course of the grant, EI2 staff conducted desk audits with the City of Chicago DHED staff. The results of these desk audits were either made available to DHED or asked to be responded to within a month of issuance.

Program Results

DHED was able to complete 434 units over the grant period, with an average percentage savings of 19 percent. The following chart shows additional detail of the results of the DHED program.



Program Budget	Expenditures
Subgrantee Adminstration	$ -
Financing	
Revolving Loan Fund (RLF)	$ 642,200
Total	$ 642,200
Final Results	
Units Completed	434
Total Loans	4
Total Amount Loans Issued	$ 642,200
Average	$ 160,550
Estimated Energy Savings (BTUs), Annually	6,420,284,710
Kilowatt Hours (kWh)	506,000
Therms	46,906
Average Percentage Savings	19%
CO2 Equivalent (metric tons)	606
-Automobiles off road	126
Estimated Cost Savings, Annually	$ 91,906
Average per unit	$ 212

Accomplishments

SUBTASK 2.2: Expand residential retrofit financing options.

EI2 will establish a "Green Loan Pool" for the purpose of providing financial assistance to low-income building owners undertaking a rehab. These funds will be leveraged with other existing rehab programs and used to increase the amount of energy efficiency measures implemented in these rehabs. Because this program will be delivered in tandem with an existing rehab program, retrofit costs will be reduced and provide greater information on this delivery model.

GOAL ACHIEVED: City of Chicago DHED utilized $642,200 in forgivable loans toward 4 affordable housing rehabilitation projects within the City.

- A total of 434 units, and an approximate energy savings annually of $92,000 across the DHED building portfolio.

Challenges and Lessons Learned

Early program planning for this program drew heavily on the idea that ARRA funds dedicated toward energy efficiency could easily supplement currently existing or "shovel ready" projects in an effort to expedite expenditure of grant funds into the economy. The EI2 MURIL pilot serves as an informative case study on this theory. During the pilot, EI2 found that despite what appeared to be natural synergies between housing rehabilitation and energy efficiency retrofitting, there is a substantial series of often conflicting programmatic requirements, contract obligations, laws, key dates and timelines, and staff expectations/responsibilities that all combine to make a much more complex and administratively challenging program.

EI2 worked closely with the staff at DHED throughout the program. While the program did eventually complete its unit goal, there were a number of instances that EI2's monitoring and compliance staff, through Shaw Environmental (now CB&I), found outstanding issues with some of the projects. In general, these issues revolved around:

- Inconsistent staffing or changes in staff responsibilities within DHED.
- Difficulty in maintaining assigned check-in meetings and monthly reports.
- Flow-down requirements, both federal and internal to CMAP, were not always understood by project developers, and required extra time to review for compliance.
- Conflicting timelines between EI2 program goals and City of Chicago DHED's long-term project approval and goals process.

Staff at both DHED and EI2 worked to alleviate some of these issues throughout the course of the pilot, but because of both DHED and EI2 had contractually bound responsibilities to their respective programs, it was often difficult to reconcile or negotiate new strategies to help get all EI2 goals to be met (e.g. 15 percent energy savings for each building). By the end of the pilot, DHED and CMAP had developed plans for each property that would satisfy both program's requirements, and all buildings had completed retrofit activity by 9/30.

Village of Oak Park

The Village of Oak Park pilot program started in the fall of 2011, and had several projects in the pipeline immediately, as well as applications from different building owners. The first two retrofits were completed in December 2011, however, the Oak Park MURIL program experienced several long periods of no retrofits completed after the initial three, and ended up returning $2,500 in unused funds to the EI2 program.

The program had an original goal of approximately 20 retrofitted multifamily units within the Village of Oak Park, and a funding level of $50,000. Over the course of the program, they were awarded additional funds totaling $150,000 with a goal of 60 homes, in hopes of being able to expend the additional funds because of a strong start to their program. The additional new units were however not identified and the final funding level was later reduced to $65,000.

Marketing Efforts

The Village marketed the program to eligible buildings through newsletters, meetings and events, and mailings. While the program was live, it was promoted monthly in the Oak Park newsletter, OP/FYI. The Village sent mailings twice: to owners of four to seven units in April 2012, and to a larger group made up of owners of two to seven units in August 2012. They held a Home Energy Conservation Workshop in March 2012, in partnership with CMAP and EI2, and had a booth at the Day in Our Village event.

Changes to Program

The program had initially been awarded $50,000 when it started in April 2011. In July 2011, the contract was amended, with the program eligible for up to $150,000 to be paid out in three phases at $50,000 each. Once the first phase was completed, they were able to request funds from phase two, and then phase three. In July 2012, the program was amended to reduce the amount of funds awarded from $150,000 to $65,000. The change was made after the program had difficulties identifying potential participants.

Program Results

The program started with some momentum with several projects in the pipeline immediately. After the initial few months, it was harder to recruit and find appropriate buildings for the program. Despite marketing efforts by the Village of Oak Park, including mentions in the village newsletter and community events, there was a significant lack of interest on the part of building owners.

Figure 15 provides additional detail on the results of the Oak Park MURIL Pilot Program.

Figure 15: Oak Park MURIL Pilot Program Results

Program Budget	Expenditures
Subgrantee Adminstration	$ -
Financing	
Revolving Loan Fund (RLF)	$ 62,500
Total	$ 62,500
Final Results	
Units Completed	28
Total Loans	12
Total Amount Loans Issued	$ 62,500
Average	$ 5,208
Estimated Energy Savings (BTUs), Annually	
Kilowatt Hours (kWh)	9
Therms	3,922
Average Percentage Savings	15%
CO2 Equivalent (metric tons)	21
-Automobiles off road	4
Estimated Cost Savings, Annually	$ 3,316
Average per unit	$ 118

Accomplishments

SUBTASK 2.2: Expand residential retrofit financing options.

EI2 will establish a "Green Loan Pool" for the purpose of providing financial assistance to low-income building owners undertaking a rehab. These funds will be leveraged with other

existing rehab programs and used to increase the amount of energy efficiency measures implemented in these rehabs. Because this program will be delivered in tandem with an existing rehab program, retrofit costs will be reduced and provide greater information on this delivery model.

GOAL ACHIEVED: Village of Oak Park utilized $62,500 in forgivable loans toward 12 affordable housing rehabilitation projects within the Village.

- A total of 25 units, averaging 15 percent energy savings, and an approximate energy cost savings annually of $3,300 across the Village of Oak Park's building portfolio.

- The MURIL program met the original intent of providing support and funding for income qualified properties, which allowed smaller buildings (2-4 units) to perform retrofits that may have not had access to funding to do so otherwise.

Challenges and Lessons Learned

One barrier that led to the difficulty of finding buildings to participate was that the participating buildings needed to be low to moderate income residential buildings. In the Village of Oak Park, only a small percentage of buildings met this requirement. The Village proposed either raising or removing the Area Median Income (AMI) requirement in order to recruit more buildings into the program. However, this change was not allowable – the original intent of the bid clearly stated that income qualification was a required condition of this particular EI2 program and CMAP was subsequently unable to approve changing the AMI requirement.

Another barrier encountered in the program that affected building owners' willingness to participate was lead paint. If a project exceeded $5,000 per unit in federal funds, HUD required the testing and treatment of all lead based paint hazards. The Village had initially planned to utilize lead paint mitigation costs which they applied for through a HUD grant, but were not successful in their bid. Many homes in Oak Park are older structures and the Village found that owners didn't want to address the issue, in part due to the additional cost of treating the hazards could have fallen to the owner. There were projects identified that would have triggered the lead paint clause, and owners withdrew from the program.

Lastly, owners were also unwilling to undertake major energy saving improvements and preferred to tackle more visible rehabilitation improvements. Several properties had rehab priorities that did not include energy retrofits – like kitchen and bath rehabs and updating electrical systems. The Village also had difficulties with building owners submitting applications. Several owners submitted applications but did not respond to follow up requests for information; others were slow in submitting or expressed interest but did not submit.

EI2 and Village of Oak Park staff worked to make the pilot program as flexible as possible, but in the end the diminishing marginal returns for the effort spent to obtain retrofits against the

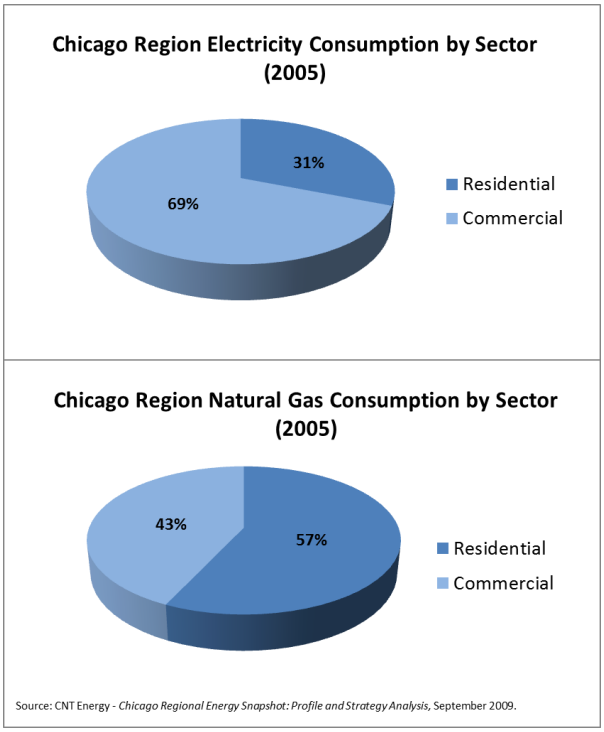
benefits for what ended up being a very small eligible target population required that EI2 eventually reallocate the remaining Oak Park funds to other parts of the program.

Commercial and Nonprofit Programs

Commercial and industrial buildings in the Chicago region are a vital part of the regions infrastructure and economy, and they were the last of the building sectors EI2 chose to focus the program on. As the charts to the right show, the sector comprises a primary component of the region's energy use. Creating a comprehensive energy efficiency strategy for long-term reduction in both electricity and natural gas use requires the development and coordination of programs that can be tailored to the specific retrofitting needs of the sector. Unlike single-family and multifamily residential, the commercial/industrial sector has magnitudes of scale and various business-centric dynamics that make implementing successful retrofitting strategies exceptionally challenging.

During the planning of the initial application, EI2 staff and partners had spent considerable time meeting with national and local finance institutions, commercial building associations, commercial building owners, and local government to explore commercial retrofit options and the finance mechanisms that would be necessary to bring about new market innovations in the sector. Traditional means, like the use of Energy Service Companies (ESCOs), while useful, had not by any means brought comprehensive solutions to all buildings. During its exploratory phase, EI2 was determined to utilize grant funding to develop new and creative methods to try and address this ongoing challenge.

In early 2011, EI2 developed and solicited an RFP for a large commercial and industrial (C&I) financing program for privately-owned commercial structures. There was no particular building type targeted, as EI2 looked to leave as much room as possible for innovation in the expected proposals. However the primary goal of the program was to stimulate the retrofit market in commercial and industrial buildings by making new financial products available in the marketplace that were attractive and affordable to building owners. The program also intended to assist financial institutions in lending to C&I buildings owners by providing a loan loss reserve, or other innovative credit enhancement method that, when paired with existing or new lending programs, would increase



participation and market penetration for C&I retrofit activity.

EI2 initially dedicated $10 million of the BBNP grant award to a commercial/industrial financing program. Following the RFP and award process, in which EI2 received five proposals, two strong candidates emerged and the program decided to split the commercial program into two separate programs:

- **IFF Nonprofit Loan Program:** A $1 million LLR program that provided competitive, low-interest financing to local nonprofits that are looking to make energy efficiency improvements to their buildings.

- **SCIenergy Commercial/Industrial Loan Loss Reserve**: A $9 million LLR program that supported an innovative financing model known as a Managed Energy Services Agreement (MESA).

The following section explores these two commercial-focused programs in greater detail and provides insight into the state of commercial energy efficiency finance following the EI2 grant.

IFF Nonprofit Loan Program

In May 2011, the first award for the Commercial/Industrial program RFP was awarded to IFF, a non-profit lending institution. The Commercial Nonprofit Retrofit program was designed to provide low interest loans to nonprofit agencies for energy efficiency retrofits in commercial facilities that are owned or operated by the agencies. The loan loss reserve (LLR) allowed IFF to match the tenor of the loans with the expected payback period and potentially allow for the recognition of energy savings on the borrower's ability to make loan payments.

Program Narrative

On May 31, 2011 a contract was signed for $1,000,000 in LLR funds to be used as leverage for $10,000,000 in private investment managed through IFF and allocated among approximately 95 eligible units. The nonprofit commercial program began with two loans at two charter schools, LEARN Charter School – Hunter Perkins Campus, and Galapagos Charter School. These two projects were then followed by Avenues to Independence, an organization that helps Chicago area adults with physical, intellectual, and other developmental disabilities, and Featherfist, an organization that helps the homeless community.

After the first four loans, the program experienced delays getting additional agencies into the pipeline despite extensive marketing efforts. IFF partnered with the Episcopal Archdiocese of Chicago to help increase the pipeline, and also changed the program to allow for three different types of incentives, which totaled $325,000 of the $1 million LLR, due to the low participation. Six more loans closed in the summer of 2013, with five projects completed in the fall. Six agencies used the audit buy down incentives but declined to move forward with a loan or further retrofit work. Two projects utilized the direct incentive but did not access a loan.

Church Audits

In January 2012, IFF identified an opportunity to partner with the Episcopal Archdiocese of Chicago to create what they anticipated to be a pipeline of 150 member churches. On average, the cost for an audit provided by IFF's primary subcontractor, Shaw, ranged from $5,000 - $6,000 and the audit costs per church were capped at $1,500 by the Archdiocese due to funding restrictions. CNT Energy offered the audits at $1,500, which allowed more churches to complete audits and to help increase the retrofit pipeline. Seven churches completed audits at the reduced cost, and two churches - Community Church of Wilmette and Zion Lutheran Church – moved forward with retrofits.

Changes to Program

The programs first amendment allowed for incentives to encourage more nonprofit building owners to participate in the program and to assist in meeting the program goals. IFF found that there was low uptake of the loan due to barriers such as lack of access to capital to pay for audits; low interest rates; anxiety at taking on debt by the nonprofits; and the timeline for closing a loan. The amendment established an incentive escrow account, and $250,000 was moved from the LLR to the account. The incentives available included:

- $25,000 was used to subsidize audit fees; covering 50 percent of an audit for participants and 100 percent of the audit costs for those who chose to also move ahead with a loan.

- Up to $50,000 of the funds in the incentive escrow account could be used for administrative costs incurred by IFF, and an additional $25,000 in funds could be used for project abatement fees, covering project management fees, loan closing costs or other fees assessed for a completed project and loan.

- The remaining $150,000 was to be used for project grants. Projects that received a loan and the incentive funds would receive up to a 40 percent incentive for project costs; projects that applied for only incentive funds would receive up to 25 percent of their costs.

- The program also allowed for an interest rate buy down of 1 percent for the entire loan. The funds for the buy down were made available through the same pool of $150,000 set aside for direct incentives.

The amendment also changed the loan goal to $7,500,000 and 891,000 cumulative square feet. All options were allowed to be applied individually or combined.

DOE, CNT Energy, CMAP, and program participant staff visit the $1 million LEARN Charter School retrofitting project; December 2011.

A second amendment was added in April, 2013, that increased the amount in the incentive escrow account to $325,000, with the additional $75,000 in funds coming from the LLR. The amendment increased the amount available for audit fees subsidies to $100,000 and the amount for administrative costs to $100,000, with up to $25,000 of the administrative funds being available for project fee abatement. In September 2013, a third amendment increased the amount available, allowing up to $38,500 of the administrative funds to be used for project abatement fees.

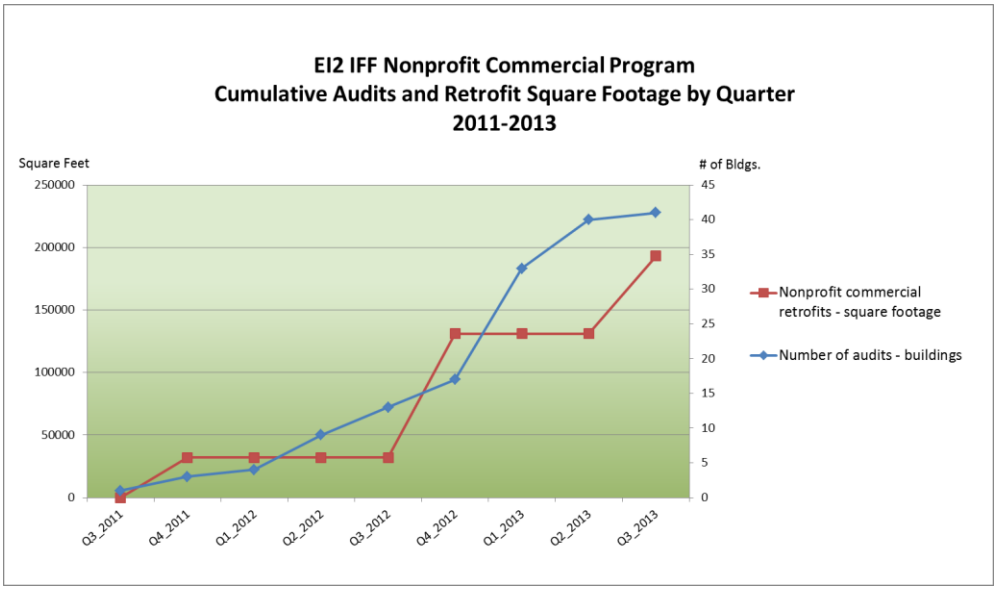
Marketing Efforts

Over the course of the program, IFF conducted extensive marketing to nonprofits, religious organizations, and schools in the Chicago region. They presented to organizations that had numerous nonprofit members and a large network, including the Illinois Child Care Association, the Donor's Forum, Illinois Association of Rehab Facilities, United Way of Metro Chicago, the Polk Bros. Foundation, Episcopal Diocese of Chicago, PlanItGreen in Oak Park and River Forest, and the Interfaith Green Network. In addition, IFF held webinars and sent emails to nonprofits and religious organizations, and presented at and advertised with the Illinois Network of Charter Schools. A four and a half minute video was produced to highlight energy efficiency lending customers – LEARN Charter School Network and Avenues to Independence.

Program Results

The IFF Program started out relatively strong, with two major projects completing with the first, but slowed to a modest pace of loan and retrofit completion by the end of the grant. Following the addition of incentives in 2013, additional project were added into the pipeline, with partial construction on these being completed by September 30, and some additional projects slated for completion in Q4 2013.

In total, the IFF program completed seven nonprofit buildings covering 193,000 square feet of commercial space. A total of $1,813,703 in loans were made, making the average project cost close to $260,000. $52,000 in total incentive funds were used later in the program to drive retrofit uptake. The average percentage savings for a project was 16 percent across the portfolio, and the estimated annual cost savings among participants is expected to be $53,000 annually. The following charts show additional detail about the results of the IFF program.



Program Budget		Expenditures
IFF Initial Budget	$	1,000,000
Interest	$	735
Total	$	1,000,735
Subgrantee Adminstration	$	(75,000)
Incentives		
Audit fees, project abatement fees, closing costs, direct financial incentives, IRBD	$	(93,103)
Financing		
Loan Loss Reserve (LLR) Utilized	$	(237,971)
Total IFF Funds Returned to EI2	$	594,661
Final Results		
Square Footage Completed*		193,127
Number of Buildings		7
Total Incentives	$	52,178
Incentive Deductions	$	8,973
Interest Rate Buydown	$	4,705
Project Fee Abatement	$	38,500
Total Loans		
Total Amount Loans Issued	$	1,813,703
Average per building	$	259,100
Estimated Energy Savings (MMBTUs), Annually		3,926
Kilowatt Hours (kWh)		314,816
Therms		28,500
Average Percentage Savings		16%
CO2 Equivalent (metric tons)		373
-Automobiles off road		78
Estimated Cost Savings, Annually	$	53,103
Average Per building	$	7,586

*As of 9/30, there were several projects that had utilized incentive funds and completed partial construction for that amount, but remaining construction was slated to occur after the 9/30 deadline from loaned funds, and are thus not counted in the Total Amount of Loans Issued or square footage completed.

Accomplishments

SUBTASK 2.3: Expand commercial and industrial loan loss reserve.

The commercial loan loss reserve program is meant to immediately increase the amount of private lending for energy efficiency retrofits to the commercial building sector by providing a loan loss reserve that stands behind the loans in the portfolio. Because most commercial assets are held by unrated limited liability companies, and because energy efficient equipment is often already pledged under a first mortgage, it has been particularly difficult for energy efficiency lenders to underwrite and secure collateral for building retrofit projects in the commercial and industrial sectors.

GOAL ACHIEVED: IFF was able to setup a successful resource for non-profits that owned their buildings in the seven county CMAP region and the City of Rockford to conduct energy efficiency retrofits.

- The offerings included a loan loss reserve and incentives including funds that could help cover fees typically assessed for a project and loan, project grants for projects that received also received a loan (40 percent of the project costs) and for those that did not (up to 25 percent of their costs), audit fee subsidies, and interest rate buydowns.
    - Total loans closed: 10 loans totaling $2.5 million10
    - Total incentive dollars committed: $93,000
    - Total square feet retrofitted: 193,000
- Creating a combined direct incentive and loan program served to generate increased uptake in the program:
    - Audit assistance enticed non-profits to take the first steps to understand energy reduction opportunities
    - Loan assistance generated uptake in the financial product.

Challenges and Lessons Learned

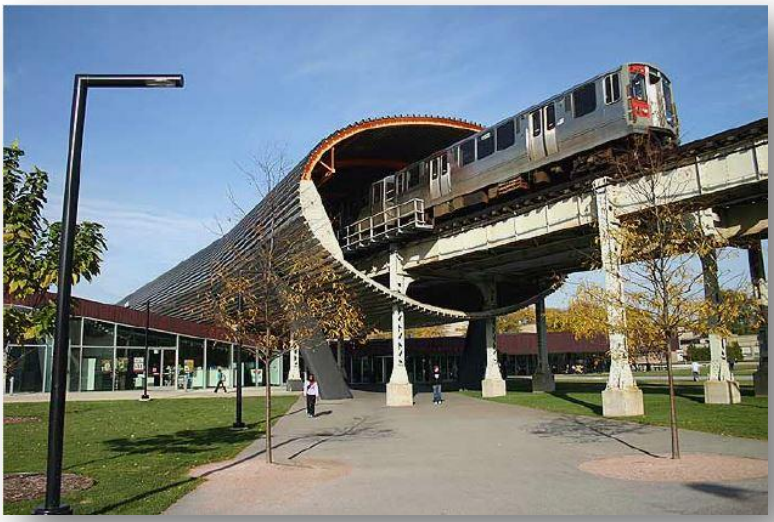
- *Slow Progress:* As stated previously, the IFF program started with some small successes, but then moved slowly in getting new buildings signed on for loans. Some of the reasons for the slow movement included:
    - Prohibitively expensive audit costs, averaging $5,000-6,000 per audit.

[10] There were 5 loans closed during the period of performance through 9/30, but construction has not been completed and will be reflected in future quarterly reports to DOE.

- Length of time to close loans – there was a long lag time due to external decision making processes, and interested nonprofits needing more direct hand-holding and project management.
- Debt aversion – some agencies chose to self-finance as they were unwilling to take on extra debt.
- Energy efficiency work was not a top priority for capital improvements.

- *Conflicting Mission:* IFF primary mission to serve as lender conflicted with certain incentives made available through the amendments listed above. IFF primarily worked on selling their own loan product instead of directing interested building owners to other incentives available, including the ones offered by EI2.

Difficulty Complying with Reporting Requirements: Administratively, IFF found the federal reporting and Davis Bacon Act compliance to be very time intensive and not manageable. They did not receive funds to help cover administrative costs until a year into the grant, when Amendment 1 was signed. These challenges ultimately led to the decision to end the program on time on September 30th instead of extending it to November 1, 2014.



SCIenergy Commercial Loan Program

Commercial energy efficiency financing for privately owned buildings has historically been and continues to be a challenging area in which to make game-changing market transformations. The Chicago region, like much of the country, has multiple private and public sector mechanisms through which building owners can become involved with energy efficiency improvements. Whether it's through government subsidized energy efficiency grants, utility incentives, or utilizing Energy Service Companies (ESCOs) that offer energy performance contracts guaranteeing energy savings to properties, there is a good deal available for savvy building owners that want to make reductions to their building's energy usage. Despite these options, there has been no specific silver bullets that can address every building's situation, and many private sector buildings have been sitting on the sidelines, either because they are uninformed about all the options, or because they feel that the traditional mechanisms available don't fall within their specific building's energy needs or available capital for projects.

The second of the EI2's commercial subgrantee awards ($9 million) went to Transcend Equity, which was acquired midway through the grant period by SCIenergy; an international energy management company headquartered in Dallas, Texas. Dedicated to elevating building performance across owner portfolios, SCIenergy is unique in combining high-tech software solutions and high-touch expertise, together with capital to deliver sustained energy savings.

Program Design

The key commercial offering of SCIenergy is the Managed Energy Services Agreement, or MESA. Under a given MESA project, SCIenergy would assume responsibility for paying all of a building's energy expenses for a period not to exceed 10 years. For the duration of the agreement, the landlord would then pay SCIenergy the historical costs of services replaced by the MESA, adjusted for rates, weather, occupancy and other parameters. To support this model, EI2 would provide $9 million as a LLR to support up to $90 million in debt and equity investments from SCIenergy's financial partner Mitsui & Co. (USA) Inc.

The MESA model represented a relatively new, innovative offering, and showed promise in its ability to deal with several barriers to energy efficiency in privately owned real estate:

- **Split Incentive:** Most large leases make landlords responsible for capital expenditures and tenants for operating costs. This structure means that a landlord making a retrofit investment cannot recoup the cost through operating savings – those savings flow to the tenant.

- **Restrictive Mortgages:** Commercial and industrial property typically has some kind of permanent financing already. Most mortgage covenants heavily restrict the landlord's ability to accept debt or liens on the real property covered by the mortgage.

- **Credit Access/Limits on Total Indebtedness:** Private universities and hospitals husband their credit ratings very carefully. During the economic crisis, the rating agencies downgraded many of them as their endowments suffered. Many of them lost the capacity to issue debt, and those that could were reluctant to increase their bonded indebtedness. When they do issue debt, it is far more likely to be for a new laboratory or a new building that drives revenue than for deferred maintenance on aging energy systems.

A MESA, in addressing these barriers, consists of two key elements:

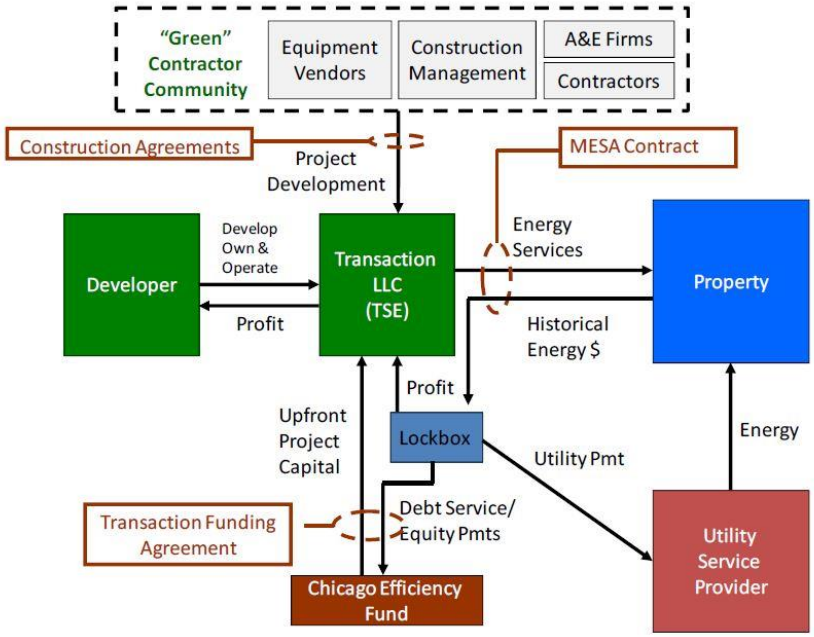
- **A property agrees to pay for its historical usage and SCIenergy to pay its actual energy bills:** Utilizing two years' worth of energy usage data, SCIenergy creates a model of a property's operations that can be adjusted for weather, occupancy and the type of space (e.g. retail, office, etc.) to reproduce a property's actual bills. The landlord agrees to pay the bill generated by that model going forward.

SCIenergy assumes responsibility for paying the actual energy bills for the property.

- **SCIenergy develops a program of retrofits that the landlord can approve or reject.** SCIenergy's retrofit programs typically cost $6 - $8/sf and save 25 percent to 40 percent of the energy in a property.

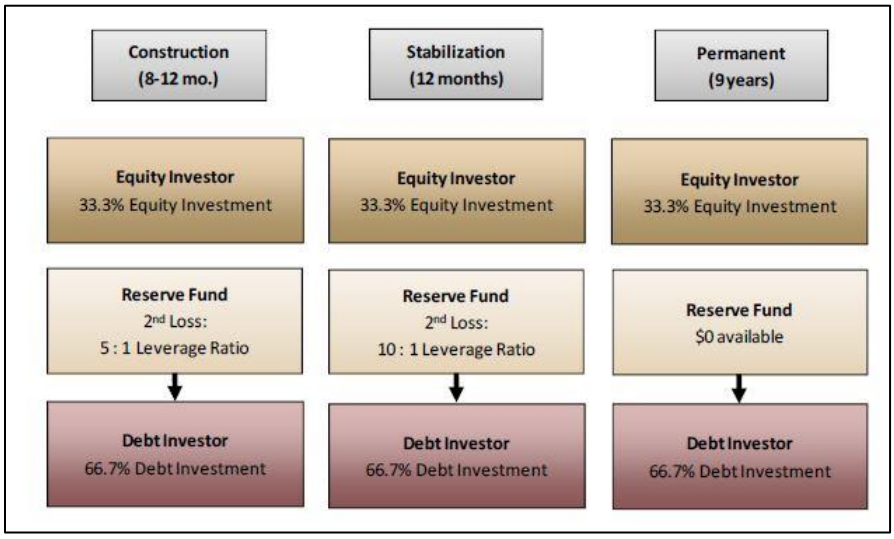
SCIenergy then uses the delta – the difference between the historical usage and the actual bill – created by its retrofits to pay debt and equity investors. Figure 16 shows how the MESA model would work with the EI2 program (termed "Chicago Efficiency Fund" in the diagram):

Figure 16: The Managed Energy Services Agreement (MESA) model



The upfront costs for retrofitting through a MESA are borne by SCIenergy through capitalization of the "Chicago Efficiency Fund." This fund consists of a limited partnership between the general partner SCIenergy and its limited financial partner Mitsui &Co. (USA) Inc. It is split between equity investors and debt lenders. The general partner SCIenergy looked to earn 2 percent on equity under management and 20 percent of profits after fees, return of equity, and any preferred return to equity providers – which is claimed to be close to 15 percent on these type of projects. Over the course of the deal (seven to ten years), the risk is shared between the equity investor, debt investor, and the LLR set up through EI2. Each project, once capitalized, will move through a series of phases: construction, stabilization, and permanent. In each phase, the returns for debt/equity change as well as funds that can be utilized in the LLR in the event of a default. Like in most LLRs, freed up funds over time would be reflowed back

into the commercial LLR escrow account for reuse on future deals. The following diagram shows additional detail of what SCIenergy had proposed for the EI2 program.



Program Implementation

EI2 awarded the $9 million LLR program to SCIenergy in April 2011, however the program was not fully contracted until later that July. As a new and complex financing mechanism, there was considerable contractual and legal work that needed to be negotiated between CMAP and SCIenergy. As part of this negotiation, it was determined that in order to spur initial interest in the program, the $9 million would be split into two separate accounts: 1) a $8 million LLR to back the equity and debt support being offered for pending MESA deals, and 2) a $1 million revolving loan fund (RLF) that would be used specifically for funding predevelopment studies for potential buildings. Forsyth Street Advisors, a partner of SCIenergy, would serve as the overall financial administrators of the accounts.

The RLF capitalization was specifically designed to allow for coverage of the extensive upfront screening, engineering/energy analysis (up to ASHRAE III), final project scoping, and MESA contract development costs that are characteristic of a large commercial energy efficiency retrofit. Initial business development discussions with commercial building owners in Chicago had shown extreme reluctance to put forth any capital for these types of reviews, and thus SCIenergy made the case that this revolving loan fund would allow for that barrier to be removed. Predevelopment loans would be provided up to 50 percent of the cost of the study and capped at $100,000. Once a predevelopment study was complete, the funds were then to be returned to the RLF plus 10 percent and the cost wrapped into the overall MESA contract.

The remaining $9 million was placed in a traditional Loan Loss Reserve, consisting of an escrow, reserve, and reflow account. As MESA deals were to be closed and implemented, per transaction up to 20 percent of the initial MESA deal amount would be transferred from escrow to fund the reserve account. Funds would then move out of reserve into the reflow account in staggered process as buildings moved through the predevelopment, stabilization, and

permanent phases. All reflow was then intended to be transferred on a quarterly basis back into the escrow account for further commercial loans to be generated. As compared to multifamily and residential-type programs, the funding flow through the commercial loan loss reserve was significantly lengthy. EI2 estimated that the LLR available would initially cover three to four major MESA projects over the course of two to three years.

During the first year of operation, SCIenergy vetted and met with numerous commercial building owners in the Chicago region. However by the spring of 2012, it became evident that the program was not receiving any serious consideration. There was a considerable pipeline that had been developed with interested properties; however the decision-making timelines and priorities of many of the building owners were not on par with the goals set out in EI2's contract with SCIenergy or the overall goals of driving significant retrofits with the use of ARRA funds. In addition to this, SCIenergy began to acknowledge that many of the potential MESA deals did not look like that would ultimately pan out financially, a challenge they attributed to falling energy rates in the Chicago region. EI2 amended the program to allow for 100 percent of the upfront predevelopment loan to be covered by EI2 to try and drive action, but ultimately this did not result in uptake either.

By summer 2012, EI2 was undergoing many of the programmatic changes that would lead to incentivizing financing funds in many of the other programs. Thus, per terms of the contract, EI2 began a series of "clawback" actions from SCIenergy's $8 million in LLR to utilize in more optimal parts of the program. The results of this were a significantly pared down LLR ($4 million).

Late in 2012, with continued lack of demand for the MESA model, under guidance from DOE, EI2 made a final reduction in SCIenergy's funds, and eliminated the Loan Loss Reserve completely. This action was followed by a final programmatic change to the $1 million left in the revolving loan fund – the conversion to SCIenergy $1 million predevelopment Technical Assistance Fund.

Technical Assistance Program

Even with 100 percent of upfront costs covered by an EI2 revolving loan fund, commercial building owners, in general, were not comfortable making full commitments to MESA implementation following a predevelopment study. In a final effort to spur commercial sector demand, in late 2012, EI2 designed an open, competitive program application for any interested commercial building owners in the Chicago region to take advantage of a technical assistance (TA) fund to be used for upfront predevelopment costs – something that would not require them to enter into a MESA. The awards for technical assistance were made on a first-come, first-serve basis, and were meant to expire by March 1, 2013 if no buildings utilized the funds. This effort was in essence the original RLF program converted to forgivable loans. If a building conducted a predevelopment study using EI2's TA funding and didn't go ahead with a MESA, the loan would be forgiven. However, if they did move on to a MESA with SCIenergy, the cost

plus 10 percent would be due back to CMAP, the cost of which would be rolled into SCIenergy and the participant building's overall MESA agreement.

SCIenergy prioritized and conducted outreach to properties that it thought would be most likely to move on this type of commercial deal and by March 1 they had had secured four applications representing four organizations across eight properties. These included:

- Museum of Science and Industry
- Illinois Institute of Technology (IIT)
- Mars, Inc.
- Simon Properties (5 regional commercial malls)
    - Woodfield
    - Gurnee Mills
    - Lincolnwood
    - Orland Square
    - River Oaks

CMAP and CNT Energy reviewed each of the applications and allowed SCIenergy to move ahead with each of the projects. As part of the agreement to allow technical assistance for the properties, CMAP required that the representative finance and legal staff at each organization signoff on due diligence letters, stating that they had reviewed and understood the MESA model and that, should they complete the technical assistance study and find that they would like to implement energy efficiency upgrades, that the MESA model was an approved and understood option for them.

Following each of the TA approvals, SCIenergy began the predevelopment study process at each of the properties. In general, this included:

1) Phase 1 – Detailed energy analysis, usually ASHRAE Level III
2) Phase 2 – Energy efficiency modeling
3) Phase 3 – Project design and financial analysis

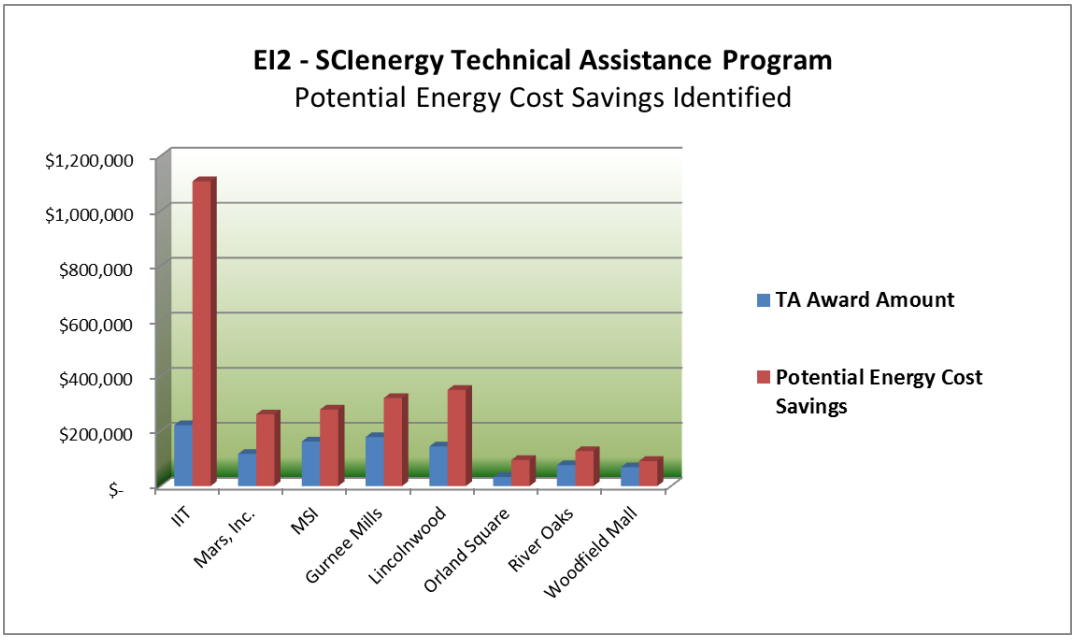
Predevelopment studies continued through September 2013, with intermittent updates and deliverables provided by SCIenergy following each of the phases. After TA predevelopment work was complete, each property was provided a Final Energy Assessment that included the potential scope of work should a MESA deal be developed.

Program Results

The technical assistance offering through SCIenergy, while instituted late in the EI2 grant period, was able to complete eight energy efficiency predevelopment studies constituting over almost 5 million square feet of commercial space. All told, close to $16.5 million in near-term energy efficiency project work (before utility incentives) was identified and recommended for

the participating buildings. If the participant buildings do move forward with MESA agreements with SCIenergy, the potential cumulative energy cost savings across participants would be approximately $2.6 million annually, or $329,000 per project on average. The following tables and chart provide additional detail on the TA investment and the expected results per project.

TA Participant Property	TA Award Amount	Square Footage	Estimated Retrofit Project Cost	Potential Energy Cost Savings	Potential Utility Incentives Available	Potential MMBtu Energy Savings	Potential Percentage Energy Savings
IIT	$ 221,356	820,620	$ 7,620,700	$ 1,108,000	$ 195,000	37,800	27.0%
Mars, Inc.	$ 116,701	350,020	$ 1,721,150	$ 260,784	$ 177,625	15,200	2.6%
MSI	$ 162,000	650,000	$ 2,617,000	$ 278,000	$ 301,000	6,200	8.5%
Simon Properties							
Gurnee Mills	$ 178,285	975,000	$ 2,000,000	$ 320,000	$ 265,000	12,850	42.2%
Lincolnwood	$ 144,034	445,000	$ 1,700,000	$ 350,000	$ 57,000	2,750	20.9%
Orland Square	$ 32,883	667,000	$ 250,000	$ 95,000	$ 99,000	1,500	8.4%
River Oaks	$ 76,196	830,000	$ 215,000	$ 127,500	$ 105,000	1,500	3.7%
Woodfield Mall	$ 68,545	225,000	$ 328,000	$ 91,000	$ 75,000	1,100	18.3%
Total	$ 1,000,000	4,962,640	16,451,850	2,630,284	1,274,625	78,900	



Program Budget	Expenditures	
Incentives		
Commercial Technical Assistance Program	$	1,000,000
Financing		
Loan Loss Reserve (LLR) - Budgeted	$	8,000,000
Loan Loss Reserve (LLR) - Clawback	$	(8,000,000)
Total	$	1,000,000
Final Results		
Commercial Square Footage Audited		4,962,640
IIT		820,620
MSI		650,000
Mars, Inc.		350,020
Simon Properties (5 regional malls)		3,142,000
Total TA Awards		8
Total TA Amount Awarded		1,000,000
Average Award	$	125,000
Potential Energy Savings* (MMBTUs)		79
Average Percentage Savings, Annually		16.5%
CO2 Equivalent (metric tons), Annually		16,331
-Automobiles off road, Annually		3,402
Potential Cost Savings*, Annually	$	2,630,284
Average per project	$	328,786
*If properties were to implement predevelopment TA recommendations		

With the exception of three of the Simon Mall Properties that didn't prove out to fit within the MESA framework, SCIenergy is working with all the participating organizations in efforts to develop MESA deals, and has estimated these be implemented in Q1 2014.

Overall, while the assumptions and projections that went into the planning of the SCIenergy commercial financing program did not reach their goals, the final TA effort that EI2 implemented in 2013 looks to provide a substantial lift to the MESA model as a viable commercial financing mechanism in the Chicago region in the long-term.

Accomplishments

SUBTASK 2.4: Expand commercial and industrial loan loss reserves in the region.

The commercial loan loss reserve program is meant to immediately increase the amount of private lending for energy efficiency retrofits to the commercial building sector by providing a loan loss reserve that stands behind the loans in the portfolio. Because most commercial assets are held by unrated limited liability companies, and because energy efficient equipment is often already pledged under a first mortgage, it has been particularly difficult for energy efficiency lenders to underwrite and secure collateral for building retrofit projects in the commercial and industrial sectors.

GOAL ACHIEVED: Through is partnership with SCIenergy, EI2 provided $1 million technical assistance energy efficiency predevelopment studies to local commercial real estate owners.

- Eight separate properties, totaling close to 5 million in commercial square feet, have now completed in-depth research on their energy efficiency potential.

- Properties have scoped out nearly $16.5 million in near-term energy efficiency work, which would lead to $2.6 million in potential energy savings annually across all participants if enacted.

- MESA deals are currently being negotiated with 5 of the properties, and expected to be in place in Q1 2014.

Challenges and Lessons Learned

From the overall EI2 program perspective, SCIenergy's ability to realistically categorize the Chicago market and the associated initial business development activity that would be required to implement an innovative approach to energy efficiency financing was significantly lacking throughout the grant period. The most striking aspect of this was the organization's inability to dedicate at least one full-time business development professional to the Chicago region despite winning access to a $9 million LLR that was backing its MESA offering. The staff that were made available, while knowledgeable, professional, and dedicated to making the program work, were clearly spread too thin managing other priorities across the country. Senior management involvement from SCIenergy was virtually nonexistent.

EI2's SCIenergy MESA offering, while innovative and optimistic in its original goals, was unfortunately not a financing product that building owners in Chicago were eager to implement. Many of the assumptions put forth through the MESA model did not fit with the reality on the ground. SCIenergy, for its part, identified two key challenges it faced in the market:

1) Energy prices: Energy prices in the Chicago area were among the lowest in the nation, making the return on investment and funding of retrofits from savings very difficult.

2) Lack of energy efficiency as priority: The question of priority will continue to be a challenge in this sector until rates rise substantially, local or national regulation forces the issue, or consumers (tenants, students, patients, etc.) become more conscious of energy usage in the built environment.

While EI2 recognized SCIenergy's overall assessment of the challenges the commercial market faces, as the awarded subgrantee, the burden of proving the model, adjusting it to real-time market conditions, and then generating associated leads to sustain the business falls squarely on the subgranted organization. Prior to EI2 adjusting the program for the TA offering, it

remained unclear that SCIenergy truly had the resources available to implement the program as laid out in their original proposal, and, even after this, the EI2 program did not seem to be high on SCIenergy's list of business priorities.

On another issue, the MESA model, and whether this actually works in the Chicago region and particularly in the private sector, remains to be seen. While the model as explained by SCIenergy makes sense in theory, it is resoundingly clear that building owners in the region are not jumping to take part in these deals. This begs the question that the offering – which as structured is a quite complex set of financial transactions – is not really as suited as it claims it to be for this market. The SCIenergy argument that some of Chicago's buildings could work if they were *elsewhere* in the country (due to higher energy rates) also pushes the limits of reason. One could argue the static nature of buildings means the only other variable in the equation – the product being sold – has to change. Many of the MESA deals that fell through over the course of the EI2 grant were attributed to not being able to make a deal work out financially. If SCIenergy truly wants to offer its services nationally, it needs to readjust its expectations for the variances in commercial markets nationally, as well as the changed economy we are working with.

As mentioned previously, at the time of this writing, six of the eight projects that received Technical Assistance through EI2 have expressed to SCIenergy that they would like to move forward with a MESA deal – which SCIenergy states will occur in the first quarter of 2014. EI2 remains hopeful that MESA projects that develop from the TA program will move forward with retrofit activity in 2014, but understandably remains skeptical.

Addressing Access to Workforce

EI2 Workforce Intermediary

In May 2011, the RFP for the Workforce Development Intermediary (WDI) program was awarded to the Centers for New Horizons (CNH) with the Chicago Jobs Council (CJC) acting as the program manager. The WDI was created to address the limitations in the skills of the available energy efficiency retrofit workforce, as well as the lack of alignment amongst a variety of workforce preparation and training services. On May 31, 2011, a contract for $200,000 was signed and awarded to CNH to serve as the WDI.

The scope for the WDI was to:

- Link qualified job-seekers to energy efficiency jobs with qualified contractors.
- Ensure that energy-efficiency training providers prepare potential workers to meet the skill needs of contractors.
- Inform providers that focus on workforce preparation services about how to prepare individuals for entry into training programs.
- Support the alignment of workforce preparation and training programs for energy efficiency jobs with the existing apprenticeship training system for the building trades;
- Support the implementation of quality training programs.
- Coordinate with the contractor outreach and support implementer to support the development and delivery of information for trainers, contractors, unions, community organizations and others through the EI2 information system.

In addition, the WDI was responsible for integrating and overseeing activities that fell into three categories: outreach and partnership development; develop a workforce liaison function; implement a workforce information and technical assistance function; and advance EI2 residential retrofit goals.

Program Narrative

The program began in June 2011 and staff began to work on outreach and compiling a database of contractors, training providers, and workforce community-based organizations. The objectives of the program were to facilitate the effective assessment, preparation, and placement of workers in jobs for energy efficiency retrofit occupations, as well as help improve the ability of contractors to recruit, retain, and develop a qualified pool of community residents. The program ended up working through three different phases, with the third phase building on the work completed during phase I and II.

Phase I: Training Providers

The first phase of the program began with the creation of a list of training providers, which was compiled by CJC and CNH. The list allowed the program to help identified whether training that was being offered aligned with the credentials required by EI2 and others. Once the list

was completed, a training provider round table survey, which was sent to the 45 training providers. The survey found that on the job training components are important to include but there are challenges around how to offer at low/no cost and offer real life experience with liability issues. They noted that it was valuable for them to know what skills, certifications, and qualifications the contractors required for new hires, and what, if any, positions were available. Finding funding for training also provided a challenge to training provider programs.

CNH held three training provider roundtables which included 45 participants overall. The goal of the round tables was to share the concerns that contractors had expressed during separate roundtables, which reinforced the findings from the training provider survey and to help address issues training providers had as well as look for solutions. The roundtables also provided information about the EI2 program and how they could enroll. The information gleaned from the roundtables was useful, but due to the lack of work, it was not able to be used in a direct, practical manner. Training providers and graduates expressed concern regarding the lack of work during the fall and winter of 2012. With little work available in the market, the focus shifted from training providers to contractor support in phase II of the program.

Phase II: Contractor Roundtables and Support

Phase II began in the spring of 2012 as priorities of the program shifted from the training providers to providing support to the contractors. CNH staff focused on two main goals during this phase: to disseminate accurate information on EI2 contractor participation and benefits and to triage and enlist and refer interested contractor to the appropriate resources, including CNT Energy, Delta, and Midwest Energy Efficiency Alliance (MEEA). For these goals, staff worked with three groups of contractors – existing participating EI2 contractors, those who expressed interest in participation in EI2, and other contractors who were unfamiliar with EI2. CNH made sure existing contractors were made aware of updates to the program, including the rebates and loans, provided them with marketing materials, and identified what additional resources they would like to see.

CNH also assisted EI2 applicants in completing their applications and explain the benefits of being a participating contractor. CNH staff were also responsible for finding potential new contractors for the program, attending contractor outreach events, and hosting contractor roundtables. The roundtables were held to attract new contractors and solicit programmatic feedback. An estimated 10 contractors enrolled to participate in EI2 program as a result of CNH's efforts.

Phase III: Recruitment/Hiring Support

The third phase of the program started in December 2012 as EI2 participating contractors' workload increased drastically and several expressed capacity concerns. The goal of this third phase was to connect training providers who have a qualified workforce to the contractors who were looking for employees. CNH developed a survey that was sent to all participating EI2 contractors to determine their hiring needs and workforce expansion. The survey was sent to 40 EI2 contractors and 8 responded. Contractors expressed a need for technicians, as well as

office administration staff. After following up with the respondents, CNH developed a recruitment template for contractors to specify their workforce needs. As a result, 15 employees were referred to contractors for positions with seven different contractors, ten employees were interviewed, and one was hired.

Rockford

As part of their outreach efforts, Excell Lewis from XLA Foundation, a subcontractor for CNH, focused on the City of Rockford, which had a pilot rebate program for single-family homeowners Lewis worked with the City of Rockford and held approximately 10 meetings with elected officials, including several state representatives, community groups, and business owners, educating them on the program offerings. As the program was not allotted a large marketing budget, outreach was focused on having meeting attendees filter program information to their networks. After the addition of rebates to the Rockford program – outlined above - the contractors working in Rockford promoted the rebate and less outreach was needed. Lewis shifted his focus to working with contractors in Kane, Kendall, and McHenry counties.

Accomplishments

Subtask 3.2: Launch workforce intermediary.

CNH was able to be a resource and help build relationships between contractors and training providers, and connect the two groups for future hiring a several people who were interviewed/hired as a result of the program. They conveyed feedback between the two, to help strengthen their respective programs and businesses. CNH as an agency was able to remain flexible with a challenging program, and readily adapt to meet the needs as they changed. Administratively, they were the most thorough in their reporting of the subgrantees and provided valuable information for programs looking to do similar work in the future.

Challenges and Lessons Learned

The WDI program was not charged with driving demand to get homeowners perform energy efficiency retrofits and the lack of initial uptake in the lending product limited their ability to create and effective resource network. CNH also found it difficult to connect with contractors and get feedback in a timely manner. Contractors were able to respond to surveys or inquiries when their schedules allowed which caused delays in moving forward with parts of the program.

In the City of Rockford, there were not a lot of resources dedicated toward marketing. Awareness had to be generated through a more grass roots approach, which took longer to get the word out about the program and its benefits. The original rebate structure for the Rockford program failed to garner any significant interest and homeowners who did hear about the program were hesitant to pay for the initial audit, which ranged in cost from $300-$500. Only once the program was changed and the out of pocket costs for homeowners was reduced did the program see a substantial increase in interest.

Program Sustainability

During the post-September 30, 2013 period through November 1, 2014, CMAP along with CNT Energy will oversee the continuation of two key financing programs of EI2, the Delta Residential Retrofit Program and the EnergySavers Multifamily Retrofit Program. Both programs will also continue to receive support in customer communications and engagement from CNT Energy and operate under the Energy Impact Illinois brand.

Delta Residential Retrofit Program

The Delta Institute managed the primary financing and rebate program under EI2 for single family (one to four units) residential buildings across the entire Energy Impact Illinois territory. During the grant period, Delta managed an incentive escrow account – which paid for rebate and interest rate buy downs – and a loan loss reserve which backed loans issued by participating lenders for single-family homeowners in need of financing for retrofit work. Under the terms of the LLR, the participating lenders had to offer unsecured loans to qualifying homeowners for qualifying measures, at an interest rate of 8 percent or lower. Additionally, Delta developed a relationship with a lender, Charter One, who offered energy efficiency loans under its Community Development division to low or moderate income individuals or those residing in areas that are predominately low to moderate income. Charter One did not want to participate in the EI2 LLR, and developed their own loan: their interest rate was a maximum of 5 percent, and allowed up to 50 percent of the loan to be used for debt consolidation to lower a borrower's debt to income ratio in order to meet qualification requirements. Delta's interest rate buy down money was utilized to offer the first year of financing at 0 percent for all lenders, regardless of whether or not they utilized the LLR, to match competing financing offers available from equipment manufacturers (whose rates jumped substantially higher than 8 percent after the first year). Going forward, Delta will offer these interest-rate buydown incentive rebates directly to homeowners to encourage undertaking of retrofit projects.

Post-grant, Delta will continue to operate all aspects of the program as described above, with the exception of the direct rebates to homeowners, which ended on September 30, 2013. The remaining funds in the loan loss reserve, estimated at $135,000, will continue to support future loans issued by the participating lenders. Two of the three credit unions as well Charter One have committed to continuing to participate in the program during the post grant period. Additionally, $25,000 has been set aside for interest rate buy-downs and will continue to be utilized to provide the 0 percent for the first year offer for all the lenders, including Charter One.

In addition, as of Q4 2013, the first repayments to the original loans are beginning to come in to the program. In each quarter of 2014, Delta, CNT Energy, and CMAP will be reviewing this reflow amount and returning it back to the LLR escrow account for generating new loans. EI2 will also be closely studying the volume of reflow it can expect into the program going forward and will make a final decision on whether the program is sustainable administratively past

November 2014 based on the projected volume and future administrative costs. As mentioned previously, although loan activity under the program was lighter than expected, it is anticipated that the volume will increase during the post-grant period for three reasons:

1) **Expiration of the rebate:** During the grant period, the Delta program offered homeowners, in partnership with area utilities, a rebate of up to 70 percent of the costs of a project earning an Illinois Home Performance with Energy STAR® certificate, up to a maximum of $1,750, which meant that a homeowner would be paying only $750 out of pocket for a $2,500 job. The amount was below the level that most of the lenders were willing to issue a loan for under the program, and below the level that most homeowners would want to go through the hassle of taking out a loan to fund. Although the local utilities will continue to offer rebates, the amount of the rebate will be reduced, with homeowners having to provide a greater amount out of pocket. We anticipate that the increased costs to homeowners will increase demand for financing to cover these costs.

2) **Focus on low to moderate-income homeowners:** The Charter One product was introduced very late in the grant period, but quickly became the most sought after loan in presentations to communities and homeowners. In addition to offering very favorable terms and the opportunity to consolidate other debt at these terms, the loan is targeting low to moderate income homeowners who are most likely to see benefits from saving on their energy bills while being least likely to have other means to pay for the improvements. Therefore, in the post-grant period, a greater emphasis will be placed on utilizing the Charter One product for homeowners whose income is too high to qualify for government subsidized weatherization programs, but still under the 80 percent AMI level necessary to qualify for the Charter One loan. The demographic, we believe, has been underserved by utility rebate programs which typically require a full payment upfront and has shown to be receptive to energy efficiency improvements through the outreach conducted during the grant period.

3) **Recovering economy:** During the grant period, the program had to encourage investment in home improvements with plummeting real estate prices, and during a recession with high levels of unemployment. As real estate prices and the economy are just starting to recover, homeowners will likely be more interested in and able to make larger investments in their home. It is anticipated that the willingness to invest in their homes will drive demand for financing to support the energy efficiency projects.

The Residential Retrofit Loan will continue to face competition from manufacturer-sponsored and other home improvement loans marketed through contractors. While the terms of the loans offered through EI2 are more favorable to the homeowner in nearly all cases, the paperwork required and timeframe to obtain approval remain barriers to wider adoption. During the post-grant period, Delta will continue to work with the participating lenders to make the processes as efficient as possible, and CNT Energy will continue to work with EI2 Participating

Contractors to ensure they understand the loan products and can effectively communicate the benefits to homeowners to help overcome this barrier.

Starting in early 2014, the loan program is also likely to face new competition from an on-bill financing program offered by area utilities. Although on-bill existed as a pilot program during the grant period, it was limited to a very small range of eligible measures. State legislation coming into effect in 2014 is mandating a larger range of eligible measures for financing and expands the range of borrowers to include multi-family buildings and small businesses. Details of the terms and conditions of this financing are not yet known, but Delta may need to work with the Participating Lenders to alter the terms of the EI2 Residential Retrofit Loan to ensure it remains competitive against this offering.

EnergySavers Multifamily Retrofit Program

The Community Investment Corporation (CIC), in partnership with CNT Energy, has managed the primary financing program for multifamily buildings (>= 5 units) across the entire EI2 territory. During the grant period, CIC utilized the loan loss reserve provided by EI2 to offer affordable multifamily property secured loans for energy efficiency measures with an interest rate of 3 percent. Building upon a program already in existence prior to the start of EI2, the funding allowed CIC to expand its lending from Cook County to the entire EI2 territory. CNT Energy provided the energy assessments and construction management support for the building owners participating in EnergySavers using other funding streams so that the services are provided at no cost to both the owner and to EI2. Late in the grant period, CIC was also provided with incentive funds to support energy efficiency upgrades in buildings that were ineligible for a loan from CIC due to a low debt coverage ratio or other concerns. These incentive funds were exhausted on September 30, 2013.

During the post-grant period, the EnergySavers program will continue to operate as it did during the grant period, with the exception of the incentive funds. CNT Energy will continue to provide energy assessment and construction management services at no cost to building owners (or to EI2). Supported by the remaining LLR funds of $225,000, CIC will continue to provide loans under the same terms to multifamily building owners throughout the entire EI2 region. The EnergySavers program already has a substantial pipeline of buildings interested in participating in the program and will continue to utilize the methods it has used over the last six years to recruit buildings to participate. In addition, starting in Q4 2013, EnergySavers has received approximately $220,000 in reflow funds through repaid loans to the program. EI2 has reviewed and authorized these funds to be returned to the LLR escrow account for further use in lending, and will continue these review actions on a quarterly basis through at least 2014. Current projections show $150,000-$200,000 being returned to the reflow account each quarter.

As noted previously, starting in 2014, there will be new financing competition to CIC's loan products in the form of on-bill financing through the areas utilities, which will now be available to multifamily building owners. The terms of the on-bill financing are not yet known, but as the

on-bill financing will not be secured with recourse to the property (or even "tied" to the meter and future utility service) it is unlikely that they will be competitive with CIC's very low interest rate. However, it is possible that building owners may prefer the ease of doing a number of small projects financed through on-bill over time, rather than doing a single large project through the EnergySavers loan. Therefore, as details of the on-bill financing become available, CIC and CNT Energy will carefully evaluate the offerings to make sure the EnergySavers program remains competitive and useful to multifamily building owners.

Program Coordination and Engagement

CNT Energy, as the implementation agency for EI2, assisted CMAP in coordinating the activities of the various subgrantees, coordinated all the compliance and reporting activities, and provided a central point of contact for home and building owners interested in EI2 programs. Through a toll-free hotline, home and building owners were able to access a call center staffed by CNT Energy staff knowledgeable about energy efficiency measures and the range of programs and incentives available to building owners of various types. The call center staff was able to make outbound calls to confirm homeowners were moving through the process and provide additional support and guidance as need. CNT Energy also developed and maintained the content on EnergyImpactIllinois.org and the related information systems that provided access to information on energy saving measures and incentives to help inform single family homeowners of their potential options. The outreach field organizers, hired through Fleishman-Hillard to provide grass roots organizing of homeowners to engage in energy efficiency, were coordinated by staff of CNT Energy. CNT Energy staffers were also responsible for the vetting, coordination, and quality control inspection of projects completed by EI2 Participating Contractors.

During the post grant period, CNT Energy will continue to work on behalf of CMAP to perform these same tasks as it relates to single family and multifamily residential buildings and the operations of the Delta and CIC programs. CNT Energy will continue the coordination and monitoring of Delta's efforts on the loan program, assisting CMAP in assuring Delta remains in compliance with the federal grant requirements. Compliance monitoring for the EnergySavers program will be monitored by a third party, Shaw Environmental & Infrastructure, due to a conflict of interest resulting from CNT Energy working with CIC on the program. Their staff will also continue to be responsible for maintaining the systems for the collection and reporting of information on projects completed with EI2 assistance.

A key element of CNT Energy's ongoing responsibilities will be communicating the availability of ongoing financing and information available through Energy Impact Illinois. CNT Energy will continue to maintain the 855-9-IMPACT toll free number and access to trained call center staff to help building owners learn about energy efficiency, the financing programs offered by Delta and EnergySavers, as well utility rebates, tax incentives, and other offers. EnergyImpactIllinois.org will also continue to be updated with information on the availability

of the financing programs as well as other relevant energy efficiency information for home and building owners.

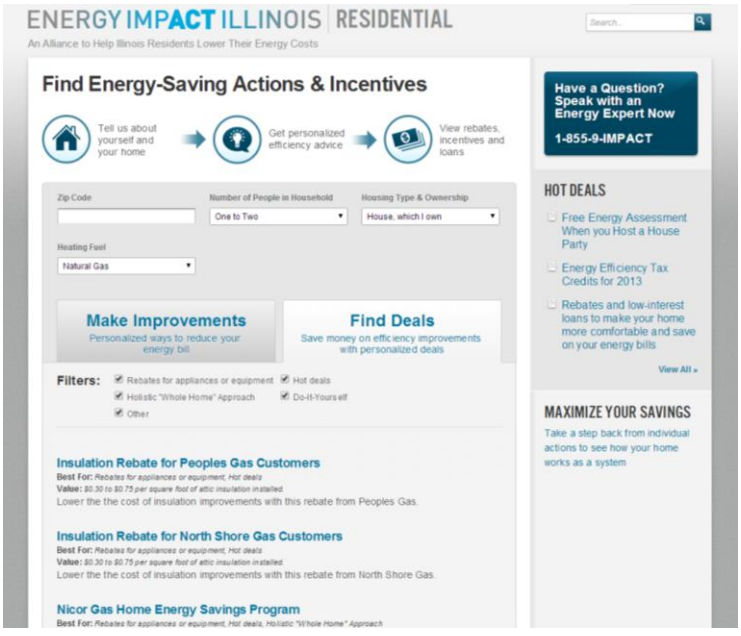
CNT Energy will also continue to build upon the community based outreach model to reach single family homeowners that was launched with Energy Impact Illinois, as a critical component to maintaining interest in the programs. As part of their responsibilities, the field organizers recruited and trained community volunteer leaders to help spread the word about efficiency programs in their communities. CNT Energy will have a community outreach manager continue to work with and support these volunteers. Volunteers will continue to lead Impact House Parties and participate in community meetings to help ensure homeowners remain aware of the efficiency programs and the EI2 financing offerings. CNT Energy is seeking to utilize similar organizing tactics to educate homeowners about other energy issues and will continue to promote the availability of energy efficiency programs and the EI2 financing as part of those other efforts as well.

CNT Energy will also continue to provide contractor qualification, coordination, and quality control support to the EI2 participating contractors throughout the post-grant period. As an Illinois Home Performance with ENERGY STAR ® program provider, EI2 is responsible for continuing to provide quality inspections of homes that are earning that certification, a service that will provided by CNT Energy's construction management staff. This requirement, as well as the ongoing volunteer lead house parties, provides a window for CNT Energy to continue to engage contractors, work with them to promote the EI2 financing offers, and ensure customer satisfaction.

Developed Products

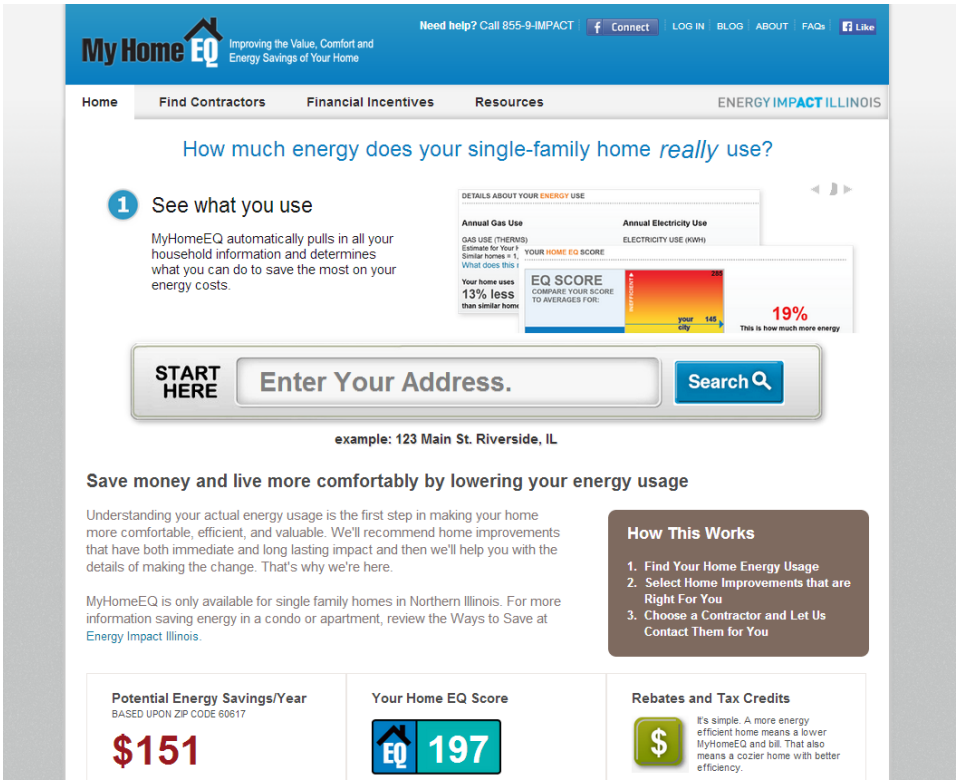
Over the course of the grant, EI2 developed numerous websites, reports, presentations, and other interactive and print media that supported the financing programs available. The following represents the top developed products in the grant:[11]

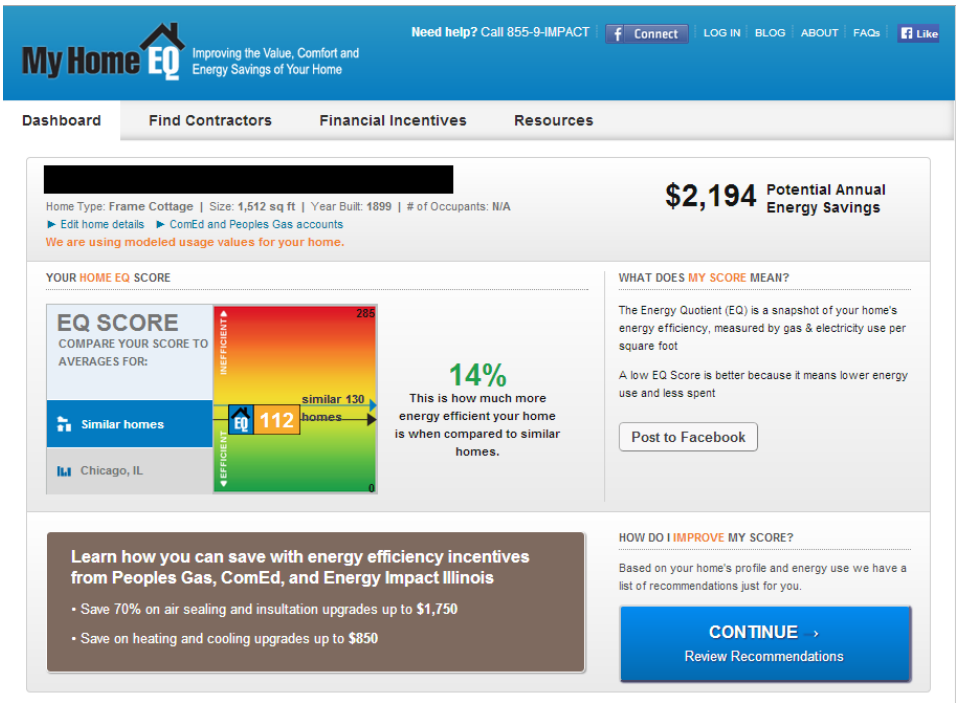
- **EI2 Website**
  - Homepage at: http://www.energyimpactillinois.org.



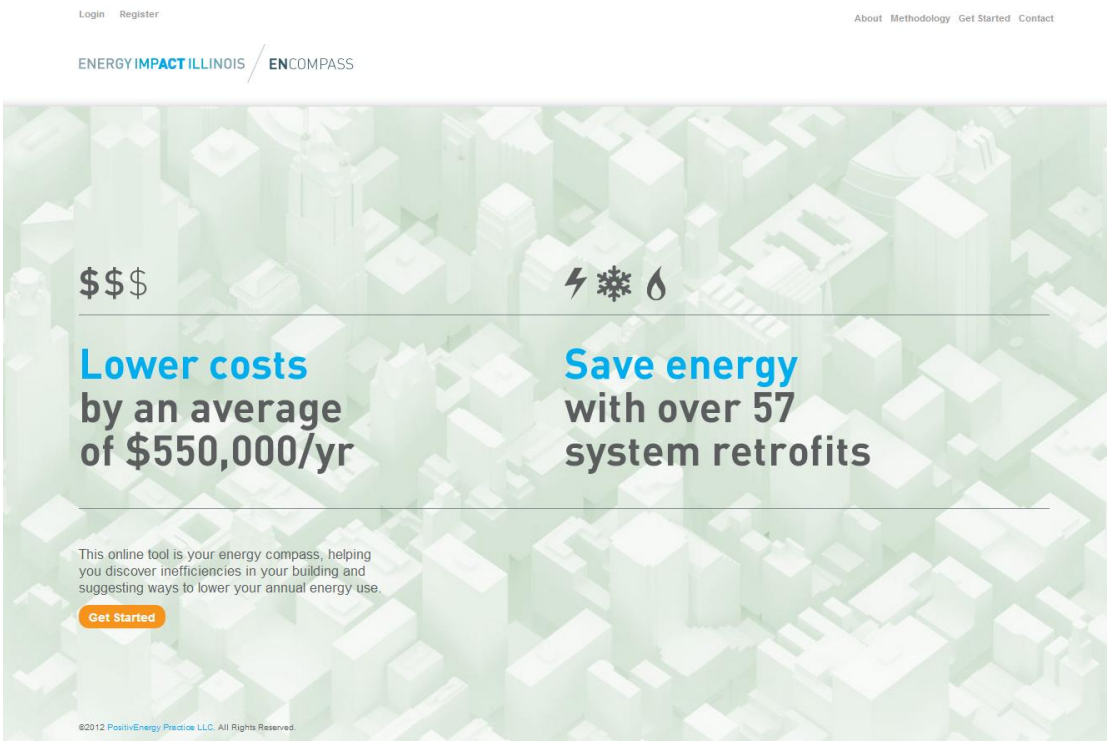
[11] For further information on the products listed, but not available through a website address, please contact Daniel Olson at dolson@cmap.illinois.gov, or 312-386-8760.

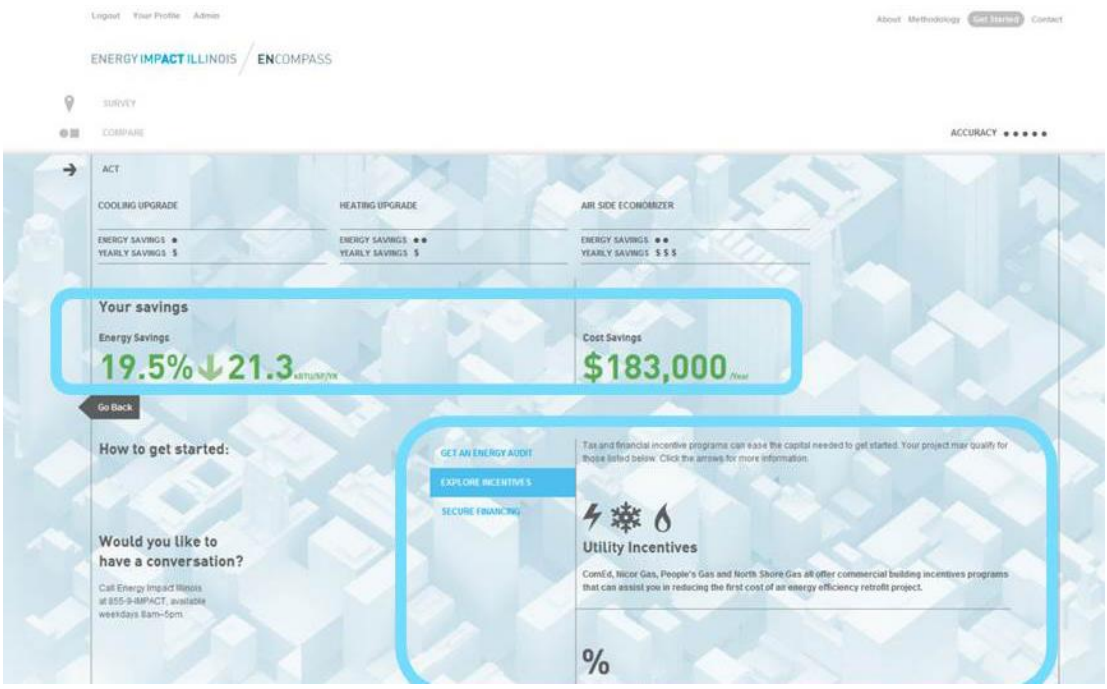
- **MyHomeEQ – Residential Building Energy Tool**
  - Available on EI2 Homepage or directly at http://www.myhomeeq.com.



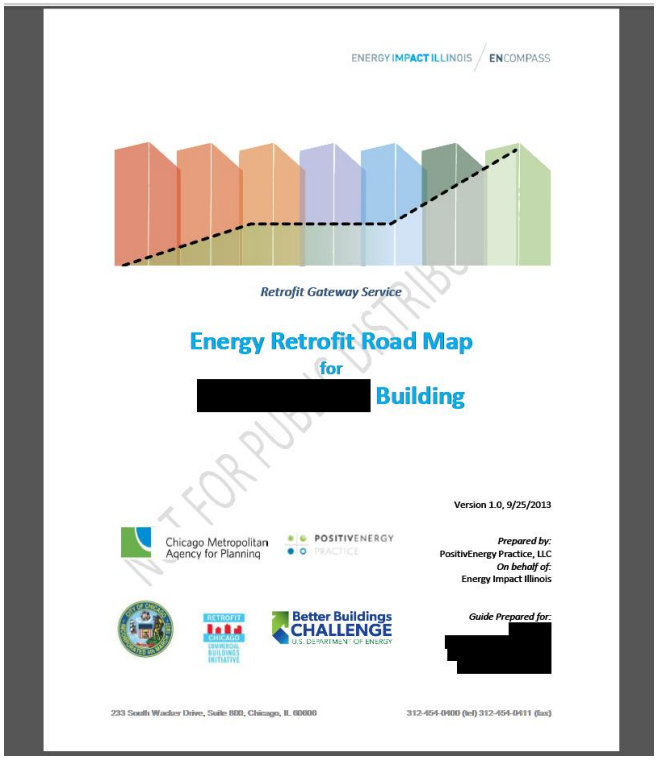


- **EnCompass – Commercial Building Energy Tool**
  - Available at http://encompass.energyimpactillinois.org/.





- **PositivEnergy Commercial Road Maps**



ENERGY IMPACT ILLINOIS / ENCOMPASS

Retrofit Gateway Service

Energy Retrofit Road Map for [redacted] Building

Version 1.0, 9/25/2013

Chicago Metropolitan Agency for Planning

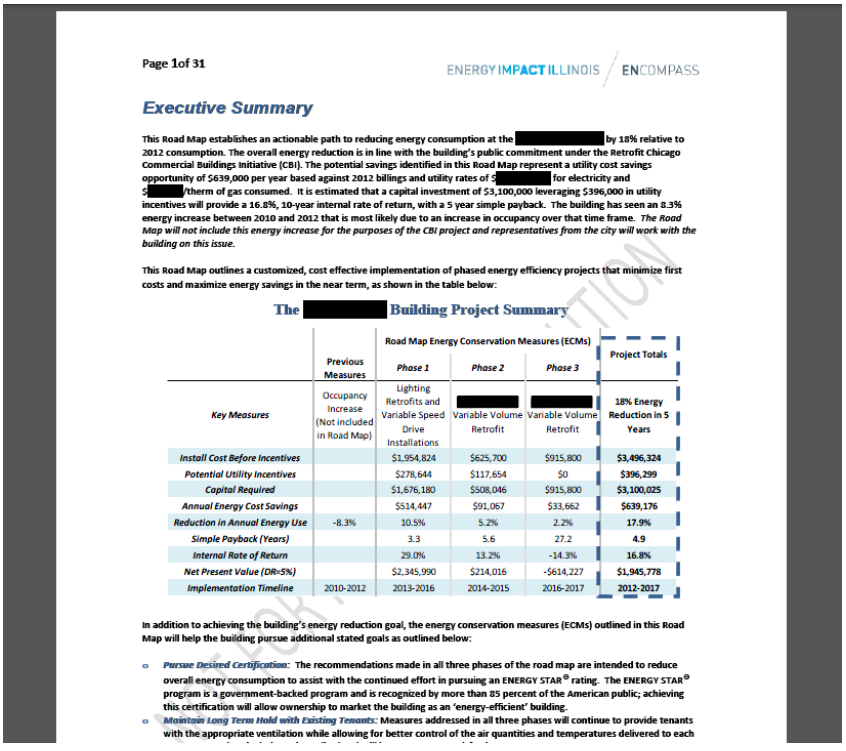
POSITIVENERGY PRACTICE

Prepared by:
PositivEnergy Practice, LLC
On behalf of:
Energy Impact Illinois

Better Buildings CHALLENGE U.S. DEPARTMENT OF ENERGY

Guide Prepared for:
[redacted]

233 South Wacker Drive, Suite 800, Chicago, IL 60606 312-454-0400 (tel) 312-454-0411 (fax)



ENERGY IMPACT ILLINOIS / ENCOMPASS

Executive Summary

This Road Map establishes an actionable path to reducing energy consumption at the [redacted] by 18% relative to 2012 consumption. The overall energy reduction is in line with the building's public commitment under the Retrofit Chicago Commercial Buildings Initiative (CBI). The potential savings identified in this Road Map represent a utility cost savings opportunity of $639,000 per year based against 2012 billings and utility rates of $[redacted] for electricity and $[redacted]/therm of gas consumed. It is estimated that a capital investment of $3,100,000 leveraging $396,000 in utility incentives will provide a 16.8%, 10-year internal rate of return, with a 5 year simple payback. The building has seen an 8.3% energy increase between 2010 and 2012 that is most likely due to an increase in occupancy over that time frame. *The Road Map will not include this energy increase for the purposes of the CBI project and representatives from the city will work with the building on this issue.*

This Road Map outlines a customized, cost effective implementation of phased energy efficiency projects that minimize first costs and maximize energy savings in the near term, as shown in the table below:

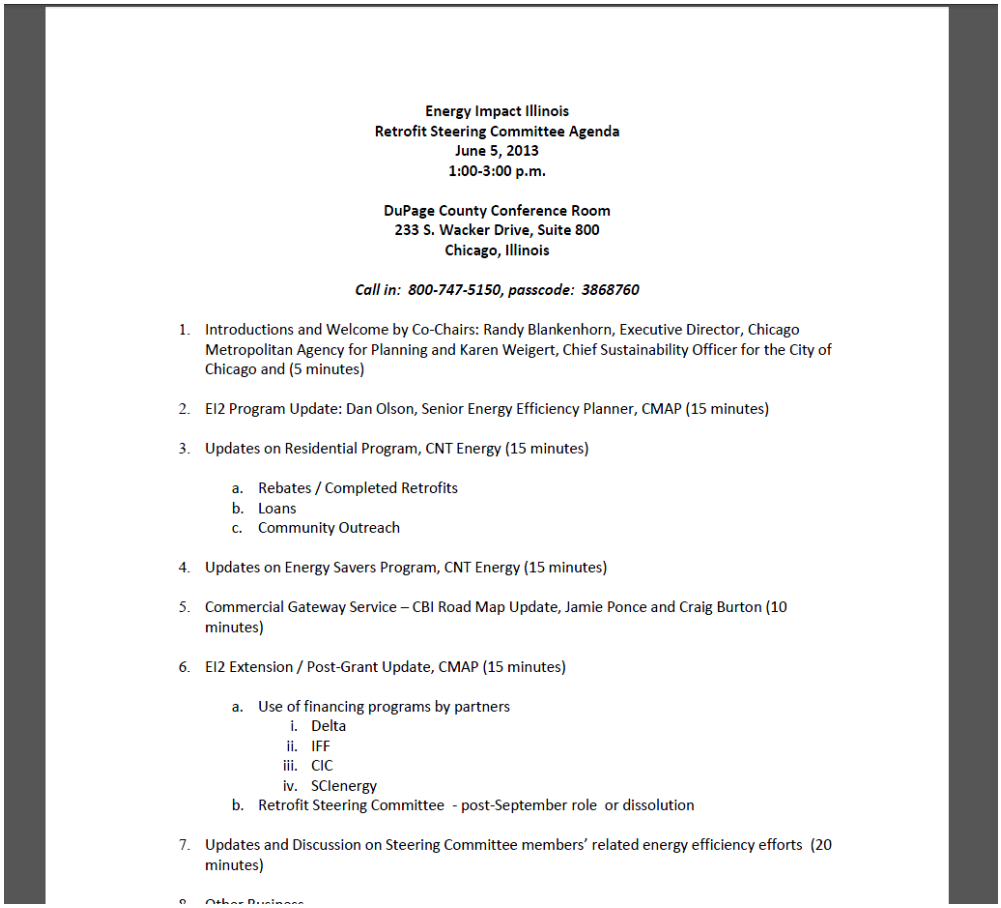
The [redacted] Building Project Summary

	Previous Measures	Road Map Energy Conservation Measures (ECMs)			Project Totals
		Phase 1	*Phase 2*	*Phase 3*	
Key Measures	Occupancy Increase (Not included in Road Map)	Lighting Retrofits and Variable Speed Drive Installations	[redacted] Variable Volume Retrofit	[redacted] Variable Volume Retrofit	18% Energy Reduction in 5 Years
Install Cost Before Incentives		$1,954,824	$625,700	$915,800	$3,496,324
Potential Utility Incentives		$278,644	$117,654	$0	$396,299
Capital Required		$1,676,180	$508,046	$915,800	$3,100,025
Annual Energy Cost Savings		$514,447	$91,067	$33,662	$639,176
Reduction in Annual Energy Use	-8.3%	10.5%	5.2%	2.2%	17.9%
Simple Payback (Years)		3.3	5.6	27.2	4.9
Internal Rate of Return		29.0%	13.2%	-14.3%	16.8%
Net Present Value (DR=5%)		$2,345,990	$214,016	-$614,227	$1,945,778
Implementation Timeline	2010-2012	2013-2016	2014-2015	2016-2017	2012-2017

In addition to achieving the building's energy reduction goal, the energy conservation measures (ECMs) outlined in this Road Map will help the building pursue additional stated goals as outlined below:

- ***Pursue Desired Certification:*** The recommendations made in all three phases of the road map are intended to reduce overall energy consumption to assist with the continued effort in pursuing an ENERGY STAR® rating. The ENERGY STAR® program is a government-backed program and is recognized by more than 85 percent of the American public; achieving this certification will allow ownership to market the building as an 'energy-efficient' building.
- ***Maintain Long Term Hold with Existing Tenants:*** Measures addressed in all three phases will continue to provide tenants with the appropriate ventilation while allowing for better control of the air quantities and temperatures delivered to each

- **EI2 Retrofit Steering Committee Facilitation**

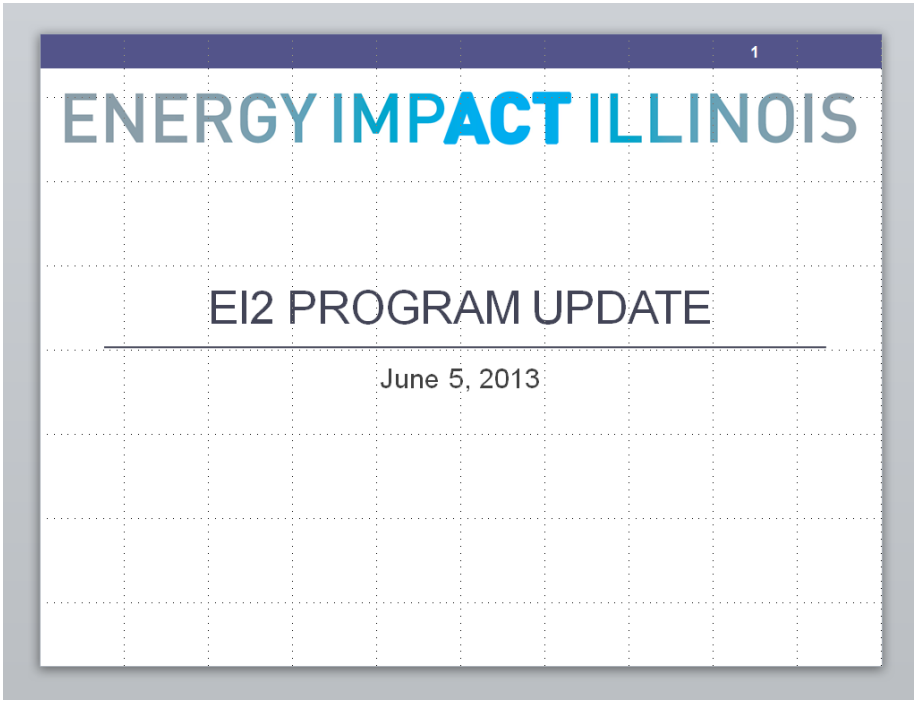


Energy Impact Illinois
Retrofit Steering Committee Agenda
June 5, 2013
1:00-3:00 p.m.

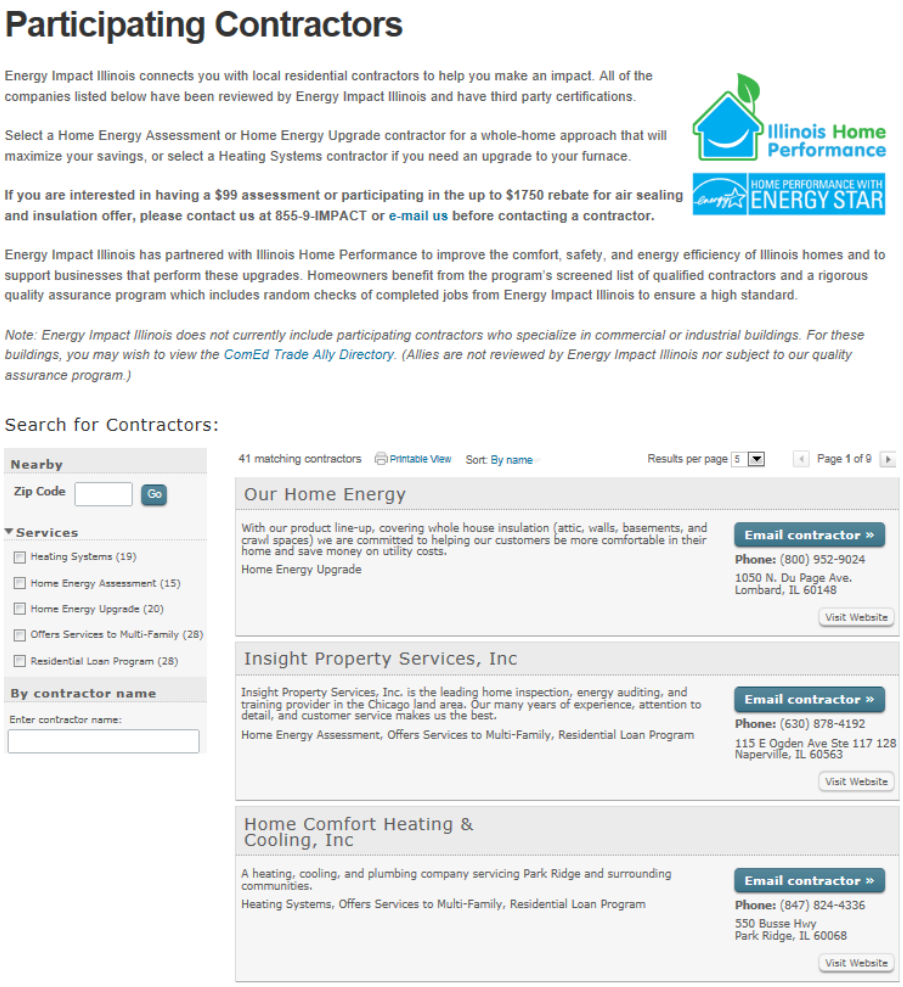
DuPage County Conference Room
233 S. Wacker Drive, Suite 800
Chicago, Illinois

Call in: 800-747-5150, passcode: 3868760

1. Introductions and Welcome by Co-Chairs: Randy Blankenhorn, Executive Director, Chicago Metropolitan Agency for Planning and Karen Weigert, Chief Sustainability Officer for the City of Chicago and (5 minutes)
2. EI2 Program Update: Dan Olson, Senior Energy Efficiency Planner, CMAP (15 minutes)
3. Updates on Residential Program, CNT Energy (15 minutes)
    a. Rebates / Completed Retrofits
    b. Loans
    c. Community Outreach
4. Updates on Energy Savers Program, CNT Energy (15 minutes)
5. Commercial Gateway Service – CBI Road Map Update, Jamie Ponce and Craig Burton (10 minutes)
6. EI2 Extension / Post-Grant Update, CMAP (15 minutes)
    a. Use of financing programs by partners
        i. Delta
        ii. IFF
        iii. CIC
        iv. SCIenergy
    b. Retrofit Steering Committee - post-September role or dissolution
7. Updates and Discussion on Steering Committee members' related energy efficiency efforts (20 minutes)



- **EI2 Contractor Network**
  - Available at http://energyimpactillinois.org/find-a-contractor/.



Participating Contractors

Energy Impact Illinois connects you with local residential contractors to help you make an impact. All of the companies listed below have been reviewed by Energy Impact Illinois and have third party certifications.

Select a Home Energy Assessment or Home Energy Upgrade contractor for a whole-home approach that will maximize your savings, or select a Heating Systems contractor if you need an upgrade to your furnace.

If you are interested in having a $99 assessment or participating in the up to $1750 rebate for air sealing and insulation offer, please contact us at 855-9-IMPACT or e-mail us before contacting a contractor.

Illinois Home Performance

HOME PERFORMANCE WITH ENERGY STAR

Energy Impact Illinois has partnered with Illinois Home Performance to improve the comfort, safety, and energy efficiency of Illinois homes and to support businesses that perform these upgrades. Homeowners benefit from the program's screened list of qualified contractors and a rigorous quality assurance program which includes random checks of completed jobs from Energy Impact Illinois to ensure a high standard.

Note: Energy Impact Illinois does not currently include participating contractors who specialize in commercial or industrial buildings. For these buildings, you may wish to view the ComEd Trade Ally Directory. (Allies are not reviewed by Energy Impact Illinois nor subject to our quality assurance program.)

Search for Contractors:

Nearby

Zip Code [ ] Go

Services

- Heating Systems (19)
- Home Energy Assessment (15)
- Home Energy Upgrade (20)
- Offers Services to Multi-Family (28)
- Residential Loan Program (28)

By contractor name

Enter contractor name: [ ]

41 matching contractors | Printable View | Sort: By name | Results per page 5 | Page 1 of 9

Our Home Energy

With our product line-up, covering whole house insulation (attic, walls, basements, and crawl spaces) we are committed to helping our customers be more comfortable in their home and save money on utility costs.

Home Energy Upgrade

Email contractor »

Phone: (800) 952-9024

1050 N. Du Page Ave.
Lombard, IL 60148

Visit Website

Insight Property Services, Inc

Insight Property Services, Inc. is the leading home inspection, energy auditing, and training provider in the Chicago land area. Our many years of experience, attention to detail, and customer service makes us the best.

Home Energy Assessment, Offers Services to Multi-Family, Residential Loan Program

Email contractor »

Phone: (630) 878-4192

115 E Ogden Ave Ste 117 128
Naperville, IL 60563

Visit Website

Home Comfort Heating & Cooling, Inc

A heating, cooling, and plumbing company servicing Park Ridge and surrounding communities.

Heating Systems, Offers Services to Multi-Family, Residential Loan Program

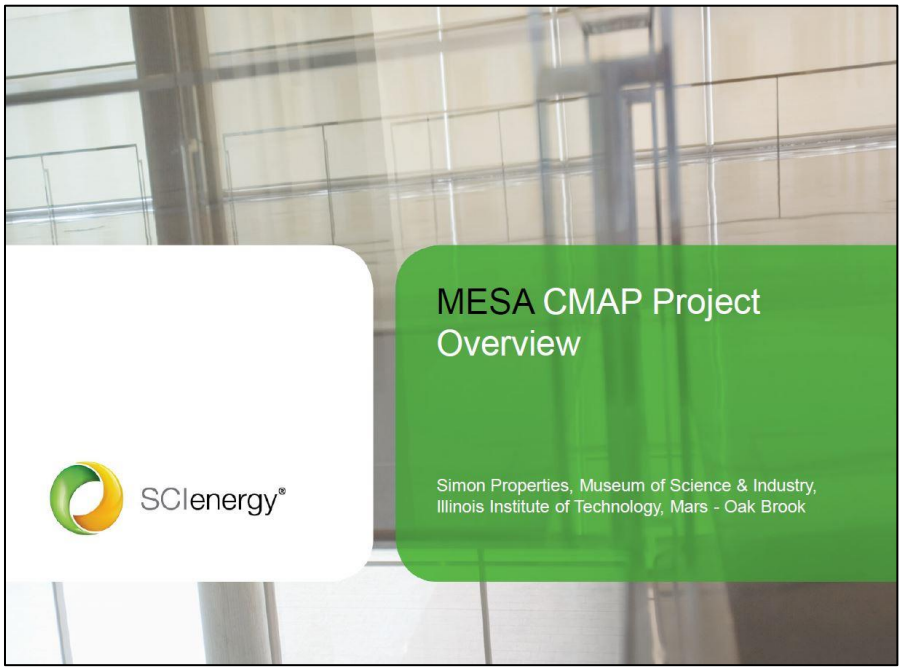
Email contractor »

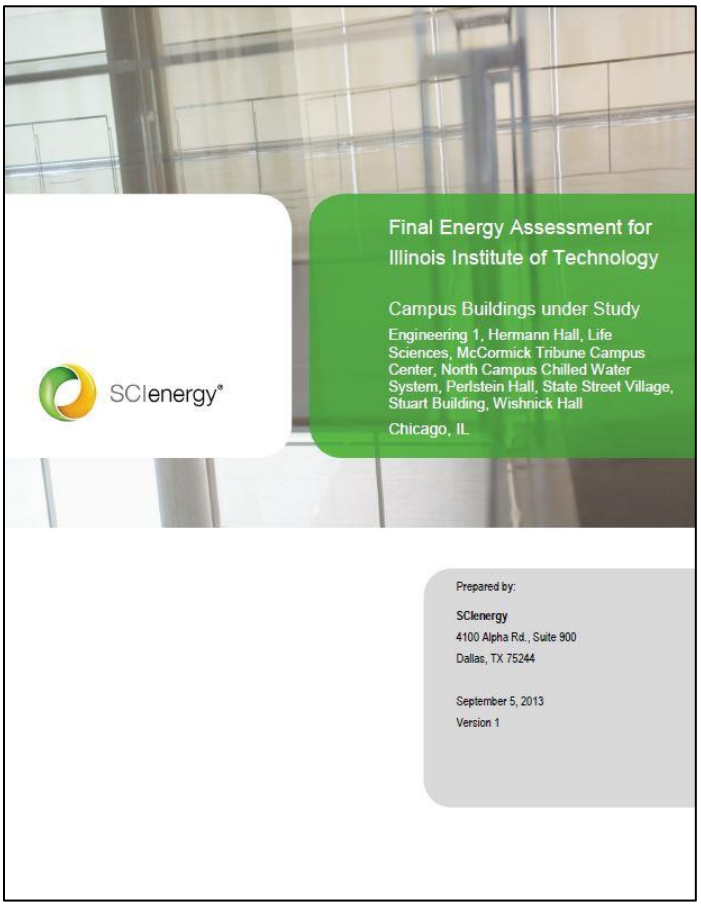
Phone: (847) 824-4336

550 Busse Hwy
Park Ridge, IL 60068

Visit Website

- **SCIenergy Technical Assistance Program – Results Overview and Individual Project Reports**





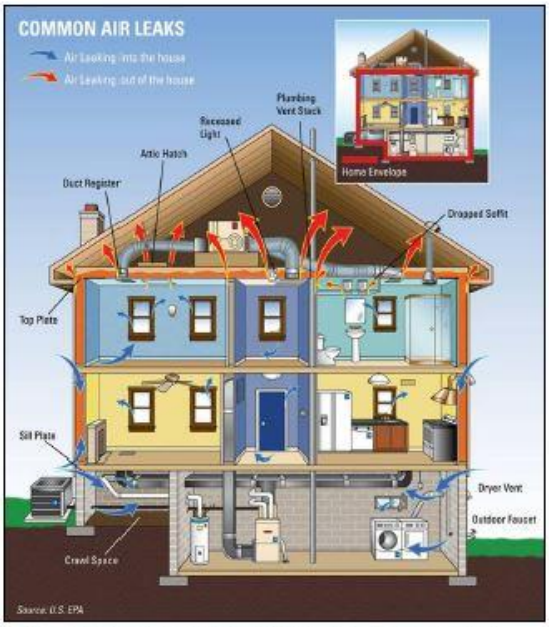
- **Field Organizer Binder (for community outreach and house parties)**

Building Science 101

A building is a system, made up of many components. It is essential that all the components work together in order to have an efficient, comfortable and healthy home. The Building Performance Institute (BPI) is the nation's premier organization for developing standards and credentials related to residential energy efficiency retrofit work. CNT Energy staff are BPI-certified professionals and use these standards during building assessments. This fact sheet defines some building science concepts.

Building envelope

The building envelope, also referred to as the exterior shell or enclosure, separates interior and exterior environments. It includes the walls, roof and foundation.



Conditioned Space

Conditioned space includes all heated and cooled spaces inside the building envelope. Unconditioned space is space inside the building envelope that is not heated and cooled. Keeping conditioned air inside and unconditioned air outside increases comfort and saves energy.

Stack Effect

Warmer air is lighter and more buoyant than colder air, therefore it rises. As warm air rises it leaks out through holes in your building envelope near the roof line, a process called exfiltration. The building seeks balance in pressure, so any air that leaves the building must be replaced. Air entering the building, a process called infiltration, usually comes in from outdoors near the ground level or through leaks in your basement. Air movement caused by stack effect increases energy loss and affects indoor comfort. This may also negatively affect the ventilation of your appliances, causing combustion equipment to backdraft and spread harmful toxic gases into your home.

Fig. 1: Foam air sealing at rim joist and plumbing stack penetrations through attic floor

Fig. 2: Blown in cellulose insulation (minimum R-38, or 10 inches)

Air sealing and insulation

Your building should act like a warm jacket. It is best if that jacket has a windproof layer to keep air out and then a thick insulating layer to keep heat in. The windproof layer around the outside of the

CORE MESSAGES FOR FIELD ORGANIZERS

WHO?

Energy Impact Illinois is an advocate for homeowners.

Energy Impact Illinois helps homeowners who are interested in taking action to lower the cost of their energy bills and create a more comfortable home. We are an alliance of local and federal organizations, utility companies and not-for-profit groups.

WHAT?

Take advantage of a limited time rebate of up to $1,750.

Chicago area homeowners are now eligible for a special rebate of up to $1,750 to improve the energy efficiency of their homes by completing air sealing and insulation projects.

Zero interest financing is available.

Take advantage of new zero percent interest loans for the first year. You can save up to 70% (up to $1,750) off the cost of air sealing and insulation, and we have attractive loan options if you want to finance the rest of the cost or go beyond basic energy efficiency.*

WHY?

Energy Impact Illinois can help you lower your energy bills and increase the comfort of your home.

Over half of your total energy costs come from heating and cooling your home, and almost all homes let too much air escape or penetrate. Most homes also have incorrectly installed or insufficient amounts of attic insulation. Air sealing and insulation projects can lower your energy bills and increase the comfort of your home.

HOW?

It only takes three simple steps.

To take advantage of this limited time offer, take three simple steps:

1. Call **1-855-9-IMPACT** to be connected with an energy efficiency contractor.
2. Get an energy analysis and cost estimate for air sealing and insulation projects.
3. Complete air sealing or insulation projects that improve the comfort of your home and create immediate savings on your energy bills.

*The maximum rebate offer is $1,750, which represents, on average, a savings of 70% off the cost of air sealing and insulation projects.

ENERGY IMPACT ILLINOIS

- **Communication Strategy - Fathom Market Segmentation Survey**

Booz & Company

Chicago, April 2011

Chicago Metropolitan Agency for Planning

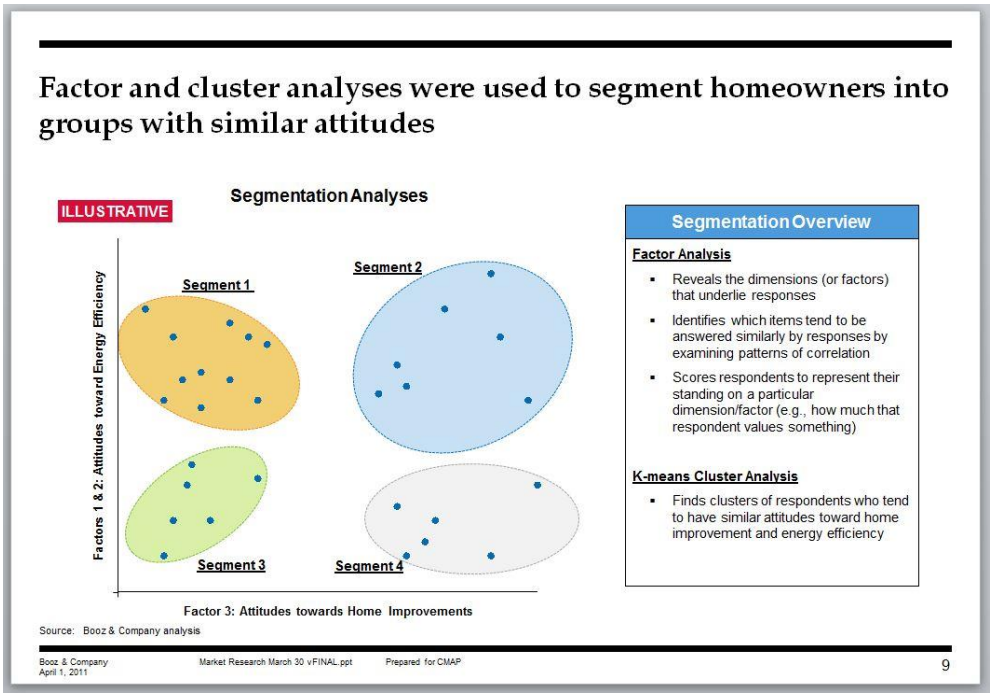
booz&co.

Market Research, Segmentation and Communication Strategy Development

Final Report

This document is confidential and is intended solely for the use and information of the client to whom it is addressed.

Booz & Company
April 1, 2011



Factor and cluster analyses were used to segment homeowners into groups with similar attitudes

ILLUSTRATIVE

Segmentation Analyses

Segmentation Overview

Factor Analysis

- Reveals the dimensions (or factors) that underlie responses
- Identifies which items tend to be answered similarly by responses by examining patterns of correlation
- Scores respondents to represent their standing on a particular dimension/factor (e.g., how much that respondent values something)

K-means Cluster Analysis

- Finds clusters of respondents who tend to have similar attitudes toward home improvement and energy efficiency

Source: Booz & Company analysis

Booz & Company
April 1, 2011

Market Research March 30 vFINAL.ppt

Prepared for CMAP

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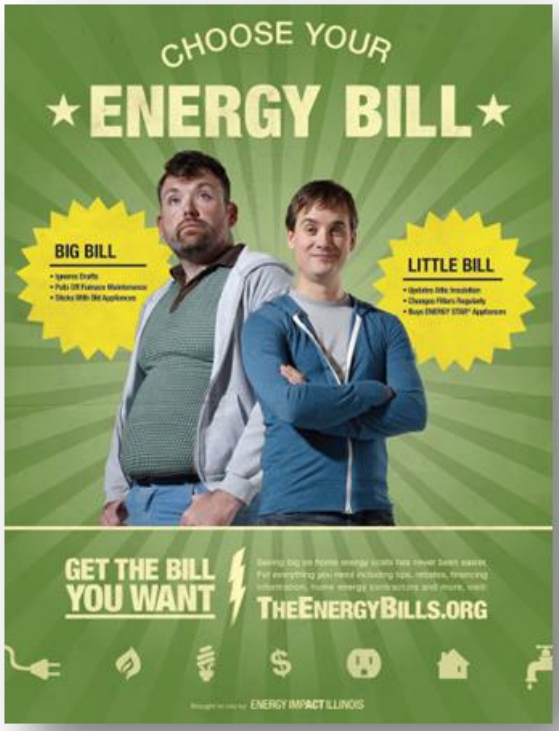
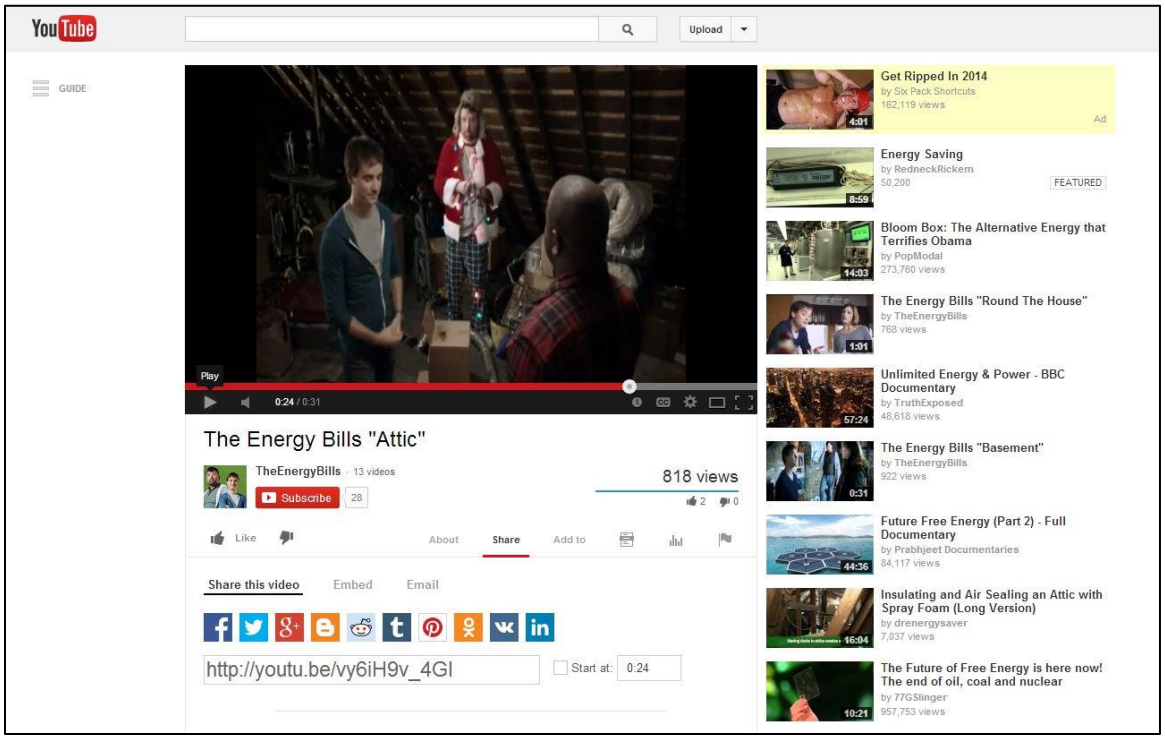
- **"Energy Bills" Print and Social Advertising Media**



- **Energy Bills – Television and Radio Commercial Media**
    - Available at: https://www.youtube.com/user/TheEnergyBills/videos.



- **Energy Bills – Six (6) Webisode Series for YouTube and Social Media Channels.**

- **EI2 participant testimonial videos**
  - Available at: https://www.youtube.com/user/TheEnergyBills/videos.

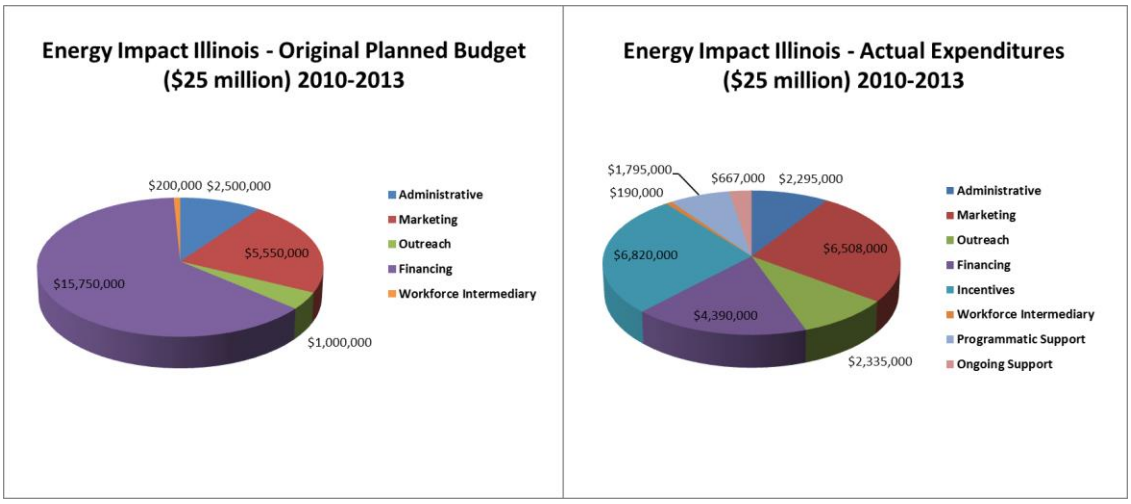
EI2 Cumulative Program Summary

The preceding report sections provided a detailed review of all aspects of the Energy Impact Illinois over the initial grant period from 2010-13. This final section looks at the high-level, cumulative results of the grant, including:

- Grant Expenditures
- EI2 Cumulative Results
- Leverage and Additional Economic Impacts
- Key Takeaways
- Conclusion

Grant Expenditures

During the initial planning stages of the grant, the primary focus was on the development of financing programs for deployment in the market across all building sectors. EI2 was originally focused on allocating $15.75 million of its award funds towards financing (63 percent). Following a continued weak economy and little interest in strictly finance programs, EI2 worked to reallocate a significant portion of the financing funds directly to financial incentives, as well as reallocating funds to a significant outreach campaign. The following charts show EI2's original planned budget versus actual expenditures as of 9/30/2013.



The largest portion of EI2 funds, $6.8 million, was expended as rebate incentives. Marketing, which included the communication strategy, for the EI2 website, the two building energy tools, and the commercial Road Maps came in at $6.5 million as the second largest expense, while overall financing was third at $4.39 million. The field organizer outreach initiative became much more important in the latter half of the grant and took up the fourth largest expense at $2.34 million. Several additional categories, in addition to Incentives, were included in the program's actual expenditures midway through the grant. The first, Programmatic Support, was developed after a number of activities that had originally been classified as administrative

costs on the grant, including the costs associated with ARRA and DOE reporting, were authorized through a July 28, 2011 DOE memo to be shifted to Programmatic Support. The second, Ongoing Support, was developed and obligated following EI2's agreement to complete a second extension of the grant until November 1, 2014.

EI2 Cumulative Results

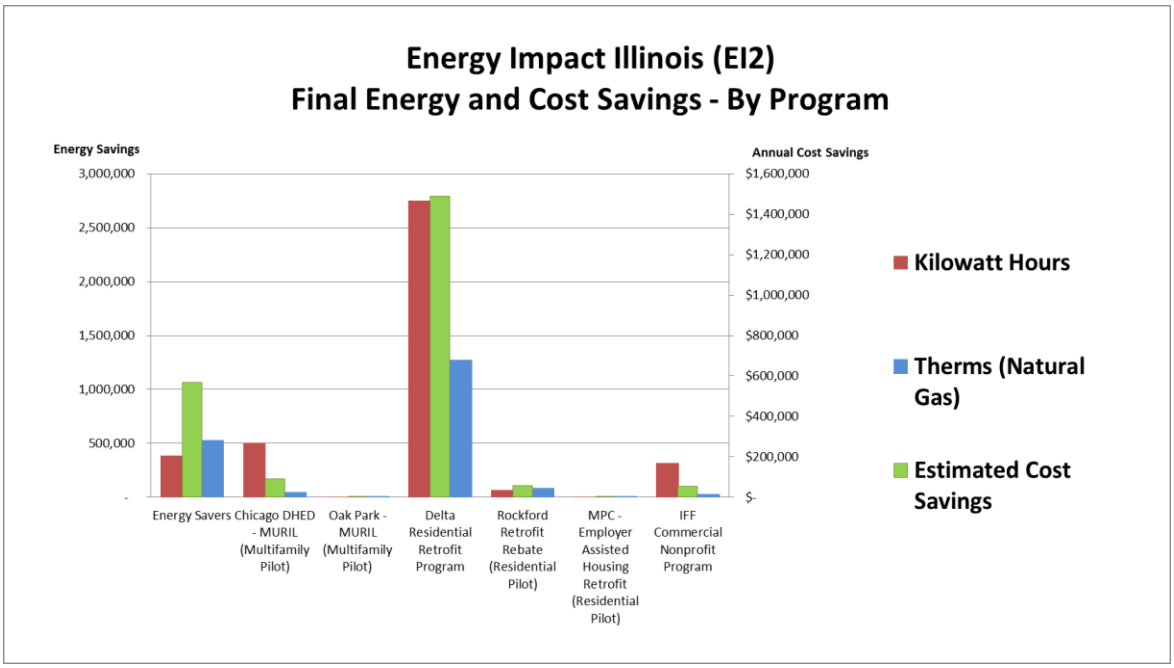
The $25 million EI2 program completed its initial period of performance on September 30, 2013. Across the single-family, multifamily, and commercial programs, over $6.8 million was utilized towards direct financial incentives, with $4.4 million being placed in loan loss reserves or revolving loan funds. Fifty-five loans totaling $3.77 million have been made, and, as of September 30, $218,479 in reflow has been received and reallocated towards additional loans.

Energy Impact Illinois Cumulative Results		
Program Administration (CMAP/CNT)	$	2,295,375
Subgrantee Intra-Program Adminstration	$	570,122
Total Incentives	$	6,819,878
Total Funds Expended for Financing Programs	$	4,394,362
Total Loans		55
Total Amount Loans Issued	$	3,772,140
Reflow through 9/30	$	218,479
Total Units Completed (Residential)		6,178
Total Square Footage (Commercial)		201,469
Total Square Footage Commercial energy efficiency studies through PositivEnergy Road Maps and SCIenergy Programs		23,000,000
Estimated Energy Savings (MMBTUs), Annually		210,726
Kilowatt Hours (kWh)		4,029,495
Therms		1,968,465
Average EI2 Program Savings		21%
CO2 Equivalent (metric tons)		10,855
-Automobiles off road		2,261
Estimated Cumulative Cost Savings, Annually	$	2,265,186

Total residential units across the single-family and multifamily sectors were 6,178, which is just above the original planned goal of 6,000 residential units in the original grant application. Total commercial square footage retrofitted stands at approximately 200,000 square feet, which is under the 10 million original goal, but as explained earlier in the report, this sector faced significant challenges throughout the grant period.

The program cumulatively will save over 4 million kWh of electricity and close to 2 million therms of natural gas for participants annually, with the average energy savings across programs at 21 percent. This equates to 10,855 metric tons of CO2 avoided, or the equivalent of taking 2,261 cars of the road.[12] Through this energy savings, EI2 is estimated to cumulatively save participants nearly $2.3 million annually.

The following graph and chart show, by program, the final estimated energy and cost savings by program. The Delta Residential Retrofit program was clearly the most impactful of the EI2 programs, driven largely by a significant rebate incentive. This was then followed by CIC's EnergySavers multifamily program. Both of these programs will continue on through 2014 with their finance offerings.



Subgrantee	Program	Completed Retrofits (Units)	Completed Retrofits (SF)	Kilowatt Hours	Therms (Natural Gas)	Estimated Cost Savings
CIC	Energy Savers	1,984	8,341	386,051	529,029	$ 567,634
City of Chicago - DHED	MURIL (Multifamily Pilot)	434	-	506,000	46,906	$ 91,906
Oak Park	MURIL (Multifamily Pilot)	28	-	9	3,922	$ 3,316
Delta Institute	Delta Residential Retrofit Program	3,582	-	2,753,490	1,272,810	$ 1,490,864
Priority Energy	Rockford Retrofit Rebate (Residential	96	-	68,339	85,006	$ 56,053
MPC	MPC - Employer Assisted Housing Retrofit (Residential Pilot)	4	-	790	2,292	$ 2,310
IFF	IFF Commercial Nonprofit Program	50	193,128	314,816	28,500	$ 53,103
	Total	**6,178**	**201,469**	**4,029,495**	**1,968,465**	**$ 2,265,186**

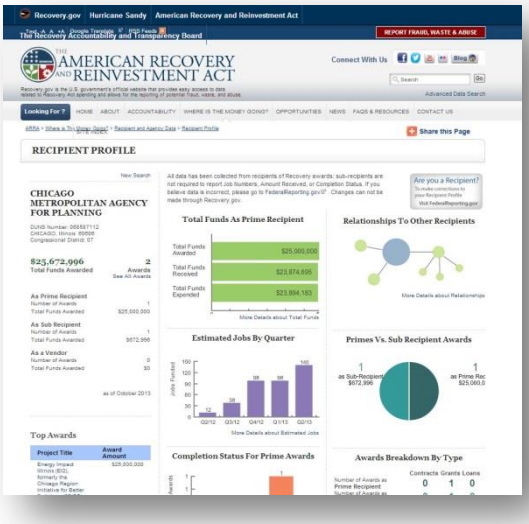
[12] Calculated through the Environmental Protection Agency (EPA) Greenhouse Gas Equivalency Calculator, found at: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Leverage and Additional Economic Impacts

In addition to the energy and cost savings results, EI2 helped create jobs and was able to significantly leverage additional funds in the region that were inevitably spent in the broader economy. At its highest point, EI2 created 140 jobs; 80 percent of which were in the energy services and construction industry. Total completed retrofit work, including audits, was approximately $23.5 million.

For the $11.1 million in combined financing and incentive funds from EI2, $15.9 million in additional leveraged resources were composed primarily of homeowner contributions, utility incentive program funds, private loan equity from financing partners, and partner program incentive funds like the energy efficiency and rehabilitation programs run through DCEO or the Historic Chicago Bungalow Association.

Looking at the amount of funds EI2 invested in the region ($25 million) against the participant energy cost savings annually ($2.3 million – at current energy rates), the program as a whole looks to have a 10.8 year payback,[13] or a simple return on investment of 9.2 percent.



Finally, despite EI2 not having as much success as anticipated in actual commercial square footage retrofitted, the program considers its commercial energy efficiency studies, particularly the 21 buildings that participated in the commercial Road Maps, a resounding success. All told, EI2's commercial Road Maps and SCIenergy Technical Assistance analyzed and recommended near-term commercial retrofit work for over 23 million square feet of commercial space in the Chicago region. Many of these buildings have made public commitments to the City of Chicago's Commercial Buildings Initiative (CBI), which is partnered with DOE's Better Buildings Challenge, a program that supports commercial and industrial building owners by providing technical assistance and proven solutions to energy efficiency. If fully implemented, EI2's study recommendations would create an estimated $50.2 million in estimated energy savings.

Key Takeaways

EI2 was a program comprised of a number of successes, challenges, and lessons learned, as is documented throughout this final technical report. Looking at the grant from a high level, there

[13] As a result of the significant rebate, it's important to note Delta Residential Retrofit program participants will have a much shorter payback period – currently estimated at 2.5 years.

are several key takeaways that EI2 hopes will lead to the betterment of energy efficiency programs, whether in Illinois or throughout the rest of the country. In keeping with the structure in which CMAP has approached this program, the following are key takeaways summarized within the three main barriers to energy efficiency: access to information, access to finance, and access to workforce.

Access to Information

Consumers' everyday knowledge about energy use in their homes and buildings, along with the potential for energy efficiency is slowly, but surely, increasing. EI2's original hypothesis – that consumers needed better access to information to make informed decisions about their energy efficiency potential – continues to remain a challenge. A considerable portion of the grant, both creatively and financially, was spent developing marketing and outreach initiatives, informational websites, and online tools to break down informational barriers. Several things however, stand out from this experience.

Marketing and outreach, and the messaging that comes along with it, is competing for consumer attention in a world that perhaps now more than ever is bombarded with other streams of information. In that competition, an energy efficiency program like EI2 is contending with the likes of multinational corporations with comparatively limitless marketing, advertising, and outreach budgets. Thus, with energy efficiency you can never have too much market and outreach, and unfortunately the hierarchy of competition for consumer attention almost always places energy efficiency toward the bottom of the list of a consumer's priorities.

Building off this first issue, because of the comparative disadvantage of energy efficiency programs within the collective consumer psyche, it could be argued that future programs should limit their marketing efforts to creative branding and messaging. More resources instead should be focused on building a program from the ground up that includes third-party, trusted messengers who are able to drive home a program's message more effectively. EI2's field organizer-driven community outreach and house party campaign highlights this strategy. Given the complex technical nature of energy efficiency and building science, programs may always need someone trusted in the home doing necessary "hand holding" for consumers to move forward.

Finally, while access to information was certainly a barrier to broad consumer adoption of energy efficiency, a more critical barrier, and perhaps one that stands in front of access to information, is making energy efficiency a priority. Barring natural market forces that would easily do this for us if energy rates were to take off, how do programs make energy efficiency climb up the list of priorities? This is not an easy task, but something that should be considered going forward.

Access to Finance

Energy efficiency financing, as a means of getting consumers to take energy efficient action and create economic recovery, is an incredibly tough sell. Its widely understood at this point that the 2008 economic crisis and its subsequent years of fallout represent a unique situation that simply hasn't responded to traditional means of economic recovery.

It became clear in the first year of the grant – particularly with former financial institutions that had provided ideas and information about possible financing scenarios while CMAP was preparing to apply to the BetterBuildings program – that when rubber met the road, most of these institutions stayed on the sidelines. While disappointing, it was the reality the EI2 program faced. EI2 was eventually able to set up financing across all sectors, but use of it remained limited.

Looking ahead for EI2, the EnergySavers multifamily program continues to make inroads into the multifamily sector, and single-family consumers are considering financing again, but not at a very fast rate. Loans do continue to be a tough sell. EI2 believes that the entire process of conducting energy efficiency retrofits, and getting through any sort of significant volume, will continue to require financing incentives in the near term. Energy efficiency as a market remains anemic without it. Whether its rebate incentives, tax breaks, interest rate buydowns, or even technical assistance funding to get projects moving, we're still looking at a world where the majority of consumers and building owners feel that completing an energy efficiency retrofit necessitates some sort of carrot.

Access to Workforce

One takeaway from working with our Workforce Intermediary, particularly at the beginning of the grant, was coming to the understanding that many agencies and programs were receiving funding for training in "green" workforce efforts, yet the market demand never developed to a point that many of these newly trained people were being hired. In retrospect, it may have been more suitable, on a national level, for funding resources to be further utilized to developing the energy efficiency market, and less on training for jobs that were not yet in demand.

Because of that lack of market demand, EI2 workforce intermediary efforts began then to center around helping the contractors that currently existed to find the resources, ongoing training, and potential staff they needed. This leads to EI2's second workforce takeaway – the importance of a trained, certified network of contractors. Once demand began taking off in the residential program, EI2 worked with our local partners, including the Midwest Energy Efficiency Alliance, to institute standards of program delivery parallel with Illinois Home Performance with Energy Star. This standardization, along with requiring BPI certification and rigorous QA/QC requirements among the program contractors, made for a much easier and much more trusted program among those that participated.

Conclusion

As evidenced within the details of this Final Technical Report, the Energy Impact Illinois program led an extensive and varied exploratory effort into defining and promoting energy efficiency market transformation within the seven-county CMAP region. There has been an incredible amount of work undertaken through this effort and an equally incredible amount of lessons learned. The program was also filled with incredibly talented staff and partners who daily were working hard to bring about real and visible change to the Chicago region. EI2 is very proud of all of these accomplishments, and wants to thank the Department of Energy and their staff for this opportunity and their assistance over the past three years.

Appendices

Appendix A: EI2 Retrofit Summary Data Spreadsheets

A.1: EI2 Program Summary

	Program Total	Delta	Rockford	MPC	Energy Savers	MURIL-Chicago	MURIL - Oak Park	IFF
Number of audits - residential units	12617	5882	102	4	5960	585	34	50
Number of audits - buildings	5910	5577	102	4	168	6	12	41
Number of residential retrofits - units	**6178**	3582	96	4	1984	434	28	50
Number of residential retrofits - buildings	**3640**	3468	96	4	58	4	9	1
Size of commercial retrofits - square footage	**201469.9**	0	0	0	8342.4	0	0	193127.5
Number of commercial retrofits - buildings	**7**	0	0	0	1	0	0	6
Total audit job hours	**8716**	7381.2	380.3	15	598	40	35	266.5
Total retrofit job hours	**178717**	127507.55	6468	142	17597	11210	593	15199
Total job cost	**$23,485,750.00**	$13,340,016	$673,447	$20,848.28	$4,291,488.56	$1,990,112.30	$156,370.00	$3,013,467.11
Total cost for audit	**$685,069.50**	$588,699	$38,004	$1,450.00	$29,500.00	$2,000.00	$4,000.00	$21,416.50
Total cost for retrofit	**$22,802,180.50**	$12,751,317	$635,443	$19,398.28	$4,261,988.56	$1,988,112.30	$153,870.00	$2,992,050.61
EI2 incentive - audit	**$73,293.00**	$43,455	$26,901	$687.50	$0.00	$0.00	$0.00	$2,250.00
EI2 incentive - retrofit	**$5,714,847.24**	$3,201,884	$431,074	$9,636.47	$2,061,780.00	$0.00	$0.00	$10,472.50
EI2 incentive - loan	**$3,772,138.93**	$120,950	$0	$0.00	$1,132,786.00	$642,200.00	$62,500.00	$1,813,703.21
Customer Contribution - audit	**$221,847.50**	$210,193	$10,905	$0.00	$0.00	$0.00	$0.00	$750.00
Customer Contribution - retrofit	**$6,636,616.63**	$5,730,238	$201,229	$1,830.14	$598,754.36	$48,012.00	$14,914.00	$41,638.80
Leveraged funds - utility (audit)	**$358,996.00**	$358,996	$0	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - utility (retrofit)	**$2,419,384.02**	$1,953,051	$900	$0.00	$444,073.20	$0.00	$0.00	$21,359.43
Leveraged funds - federal	**$76,456.00**	$0	$0	$0.00	$0.00	$0.00	$76,456.00	$0.00
Leveraged funds - HCBA, employer, state, local or partner	**$2,656,439.50**	$1,745,632	$2,439	$8,694.17	$54,095.00	$802,000.00	$4,000.00	$39,579.00
Estimated annual electricity savings (kWh)	**4029495**	2753490.43	68339	789.6	386051	506000	9	314816
Estimated annual gas savings (therms)	**1968465**	1272810.23	85006	2291.99	529029	46906	3922	28500
Average, estimated annual savings (percentage)	**21%**	21%	35%	28%	20%	23%	15%	23%
Estimated costs savings	**$2,265,186**	$1,490,864	$56,053	$2,310.00	$567,634.21	$91,906.00	$3,316.00	$53,103.00
Total number of EI2 loans	**55**	25	0	0	13	4	8	5
Total number or EI2/Delta rebates	**3452**	3452	0	0	0	0	0	0
total number of rebates with an EI2 loan	**19**	19	0	0	0	0	0	0
total number of rebates without an EI2 loan	**3433**	3433	0	0	0	0	0	0

A.2 Quarterly Summary

	Program Total	Q1_2011	Q2_2011	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	12617	166	415	1205	392	971	1036	1359	1311	1779	2641	1342
Number of audits - buildings	5910	6	20	16	20	29	104	779	1154	1605	1752	425
Number of residential retrofits - units	**6178**	**0**	**0**	23	8	14	4	305	1018	1004	1896	1906
Number of residential retrofits - buildings	**3640**	**0**	**0**	1	5	6	3	282	814	730	789	1010
Size of commercial retrofits - square footage	**201469.9**	**0**	**0**	0	32000	8342.4	0	0	99000	0	0	62127.5
Number of commercial retrofits - buildings	**7**	**0**	**0**	0	1	1	0	0	2	0	0	3
Total audit job hours	**8716**	**0**	**0**	18	36.5	37.5	9.5	513.8	1866	1650	1994	2590.7
Total retrofit job hours	**178717**	**0**	**0**	655	9467	1232	104	9401	37527	36550	39578	44204
Total job cost	**$23,485,750.00**	**$0.00**	**$0.00**	$88,075.00	$2,164,784.70	$204,026.69	$21,857.00	$1,738,837.72	$4,868,296.17	$3,830,973.13	$5,224,113.45	$5,344,786.14
Total cost for audit	**$685,069.50**	**$0.00**	**$0.00**	$500.00	$2,897.00	$3,597.00	$1,344.00	$22,596.00	$134,211.50	$130,986.00	$152,700.00	$236,238.00
Total cost for retrofit	**$22,802,180.50**	**$0.00**	**$0.00**	$87,575.00	$2,163,387.70	$200,429.69	$20,513.00	$1,716,241.72	$4,734,084.67	$3,699,987.13	$5,071,413.45	$5,108,548.14
EI2 incentive - audit	**$73,293.00**	**$0.00**	**$0.00**	$0.00	$0.00	$500.00	$0.00	$9,178.50	$18,891.00	$21,891.00	$11,891.50	$10,941.00
EI2 incentive - retrofit	**$5,714,847.24**	**$0.00**	**$0.00**	$0.00	$0.00	$6,300.00	$3,000.00	$235,044.95	$796,057.71	$883,276.25	$1,520,385.91	$2,270,782.42
EI2 incentive - loan	**$3,772,138.93**	**$0.00**	**$0.00**	$85,000.00	$1,023,294.13	$15,000.00	$0.00	$151,123.50	$1,147,613.05	$808,608.35	$243,318.60	$298,181.30
Customer Contribution - audit	**$221,847.50**	**$0.00**	**$0.00**	$0.00	$1,298.00	$2,097.00	$945.00	$7,123.00	$38,425.00	$59,752.00	$39,799.50	$72,408.00
Customer Contribution - retrofit	**$6,636,616.63**	**$0.00**	**$0.00**	$2,575.00	$10,093.57	$161,859.69	$14,373.00	$1,123,741.95	$1,966,740.81	$1,121,985.60	$913,709.58	$1,321,537.43
Leveraged funds - utility (audit)	**$358,996.00**	**$0.00**	**$0.00**	$0.00	$0.00	$0.00	$0.00	$12,601.00	$65,595.00	$43,200.00	$87,000.00	$150,600.00
Leveraged funds - utility (retrofit)	**$2,419,384.02**	**$0.00**	**$0.00**	$0.00	$0.00	$0.00	$900.00	$82,874.67	$385,797.46	$372,100.64	$575,885.36	$1,001,825.89
Leveraged funds - federal	**$76,456.00**	**$0.00**	**$0.00**	$0.00	$30,000.00	$14,270.00	$0.00	$4,800.00	$2,386.00	$0.00	$12,500.00	$12,500.00
Leveraged funds - HCBA, employer, state, local or partner	**$2,656,439.50**	**$0.00**	**$0.00**	$500.00	$1,500.00	$4,000.00	$2,639.00	$120,043.17	$447,929.73	$518,514.90	$1,324,754.00	$236,558.70
Estimated annual electricity savings (kWh)	**4029495**	**0**	**0**	2510	41503	4246	1100	216578	798533	690140	1222018	1052868
Estimated annual gas savings (therms)	**1968465**	**0**	**0**	10130	8801	5423	1682	90302	350247	386659	452697	662523
Average, estimated annual savings (percentage)	**21%**	**0%**	**0%**	29%	22%	26%	27%	23%	23%	25%	22%	17%
Estimated costs savings	**$2,265,186**	**$0**	**$0**	$10,381	$11,273	$5,457	$1,510	$108,583	$400,799	$429,850	$544,357	$752,977
Total number of EI2 loans	**55**	**0**	**0**	1	5	1	0	4	10	12	9	13
Total number or EI2/Delta rebates	**3452**	**0**	**0**	0	0	0	0	275	771	678	739	989
total number of rebates with an EI2 loan	**19**	**0**	**0**	0	0	0	0	1	2	3	3	10
total number of rebates without an EI2 loan	**3433**	**0**	**0**	0	0	0	0	274	769	675	736	979

A.3 Delta Residential Loan and Rebate Program

	Delta Total	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	5882	3	7	15	92	752	1113	1579	1792	529
Number of audits - buildings	5577	3	7	15	71	746	1084	1545	1706	400
Number of residential retrofits - units	**3582**	0	2	3	2	279	780	681	762	1073
Number of residential retrofits - buildings	**3468**	0	2	3	1	276	772	677	743	994
Size of commercial retrofits - square footage	**0**	0	0	0	0	0	0	0	0	0
Number of commercial retrofits - buildings	**0**	0	0	0	0	0	0	0	0	0
Total audit job hours	**7381.2**	0	6.5	10	5	483	1480	1381	1608	2407.7
Total retrofit job hours	**127507.55**	0	37	68	56	8595.5	27842	27136	28929.95	34843.1
Total job cost	**$13,340,016.27**	$0	$13,865	$19,134	$3,392	$1,494,080	$3,328,250	$2,498,083	$2,611,201	$3,372,011
Total cost for audit	**$588,699.00**	$0	$1,298	$1,797	$399	$20,248	$100,478	$108,930	$131,311	$224,238
Total cost for retrofit	**$12,751,317.27**	$0	$12,567	$17,337	$2,993	$1,473,832	$3,227,772	$2,389,153	$2,479,890	$3,147,773
EI2 incentive - audit	**$43,455.00**	$0	$0	$0	$0	$8,691	$8,691	$8,691	$8,691	$8,691
EI2 incentive - retrofit	**$3,201,883.97**	$0	$0	$0	$0	$224,749	$617,718	$684,212	$758,443	$916,763
EI2 incentive - loan	**$120,949.72**	$0	$8,294	$0	$0	$13,224	$8,740	$13,892	$31,119	$45,681
Customer Contribution - audit	**$210,193.00**	$0	$1,298	$1,797	$0	$6,649	$34,784	$55,396	$38,611	$71,658
Customer Contribution - retrofit	**$5,730,238.15**	$0	$4,273	$17,337	$2,993	$1,037,136	$1,825,640	$829,527	$723,057	$1,290,277
Leveraged funds - utility (audit)	**$358,996.00**	$0	$0	$0	$0	$12,601	$65,595	$43,200	$87,000	$150,600
Leveraged funds - utility (retrofit)	**$1,953,051.39**	$0	$0	$0	$0	$82,875	$358,525	$372,101	$459,558	$679,993
Leveraged funds - federal	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
Leveraged funds - HCBA, employer, state, local or partner	**$1,745,632.33**	$0	$0	$0	$399	$115,850	$417,151	$489,420	$507,754	$215,059
Estimated annual electricity savings (kWh)	**2,753,490.43**	0	1965	1277.85	516	212597.27	577625.91	593086.03	619623.67	746798.7
Estimated annual gas savings (therms)	**1,272,810.23**	0	1787	1485.46983	470.2	81574.17	268353.5	276201.33	311084.72	331853.84
Average, estimated annual savings (percentage)	**21%**		35%	25%	26%	22%	22%	25%	22%	17%
Estimated costs savings	**$1,490,864**	$0	$2,850	$1,426	$470	$101,266	$313,953	$331,497	$347,616	$391,786
Total number of EI2 loans	**25**	0	1	0	0	2	3	3	6	10
Total number or EI2/Delta rebates	**3452**	0	0	0	0	275	771	678	739	989
total number of rebates with an EI2 loan	**19**	0	0	0	0	1	2	3	3	10
total number of rebates without an EI2 loan	**3433**	0	0	0	0	274	769	675	736	979

A.4 Rockford Residential Rebate Program

	Rockford Total	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	102	0	0	2	2	11	52	29	6	0
Number of audits - buildings	102	0	0	2	2	11	52	29	6	0
Number of residential retrofits - units	**96**	0	0	1	2	3	35	44	11	0
Number of residential retrofits - buildings	**96**	0	0	1	2	3	35	44	11	0
Size of commercial retrofits - square footage	**0**	0	0	0	0	0	0	0	0	0
Number of commercial retrofits - buildings	**0**	0	0	0	0	0	0	0	0	0
Total audit job hours	**380.3**	0	0	3.5	4.5	12.8	128.5	179	52	0
Total retrofit job hours	**6468**	0	0	70	48	185	1247	4044	874	0
Total job cost	**$673,447.48**	$0	$0	$8,623.00	$18,465.00	$18,993.00	$256,793.48	$301,384.00	$69,189.00	$0.00
Total cost for audit	**$38,004.00**	$0	$0	$300.00	$945.00	$973.00	$13,841.00	$17,556.00	$4,389.00	$0.00
Total cost for retrofit	**$635,443.48**	$0	$0	$8,323.00	$17,520.00	$18,020.00	$242,952.48	$283,828.00	$64,800.00	$0.00
EI2 incentive - audit	**$26,900.50**	$0	$0	$0.00	$0.00	$300.00	$10,200.00	$13,200.00	$3,200.50	$0.00
EI2 incentive - retrofit	**$431,074.30**	$0	$0	$3,800.00	$3,000.00	$7,490.00	$174,009.80	$199,064.50	$43,710.00	$0.00
EI2 incentive - loan	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Customer Contribution - audit	**$10,904.50**	$0	$0	$300.00	$945.00	$474.00	$3,641.00	$4,356.00	$1,188.50	$0.00
Customer Contribution - retrofit	**$201,229.18**	$0	$0	$4,523.00	$11,380.00	$10,530.00	$68,942.68	$84,763.50	$21,090.00	$0.00
Leveraged funds - utility (audit)	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - utility (retrofit)	**$900.00**	$0	$0	$0.00	$900.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - federal	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - HCBA, employer, state, local or partner	**$2,439.00**	$0	$0	$0.00	$2,240.00	$199.00	$0.00	$0.00	$0.00	$0.00
Estimated annual electricity savings (kWh)	**68339**	0	0	2935	584	2438	23318	28373	10691	0
Estimated annual gas savings (therms)	**85006**	0	0	488	1212	3008	26124	41338	12836	0
Average, estimated annual savings (percentage)	**35%**	0%	0%	38%	28%	43%	33%	36%	36%	0%
Estimated costs savings	**$56,052.70**	$0	$0	$747.00	$1,040.00	$1,552.00	$15,764.00	$27,465.00	$9,484.70	$0.00
Total number of EI2 loans	**0**	0	0	0	0	0	0	0	0	0
Total number or EI2/Delta rebates	**0**	0	0	0	0	0	0	0	0	0
total number of rebates with an EI2 loan	**0**	0	0	0	0	0	0	0	0	0
total number of rebates without an EI2 loan	**0**	0	0	0	0	0	0	0	0	0

A.5 MPC Employer-Assisted Housing Retrofit Program

	MPC Total	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	4	0	0	1	1	1	1	0	0	0
Number of audits - buildings	4	0	0	1	1	1	1	0	0	0
Number of residential retrofits - units	**4**	0	0	1	0	1	2	0	0	0
Number of residential retrofits - buildings	**4**	0	0	1	0	1	2	0	0	0
Size of commercial retrofits - square footage	**0**	0	0	0	0	0	0	0	0	0
Number of commercial retrofits - buildings	**0**	0	0	0	0	0	0	0	0	0
Total audit job hours	**15**	0	0	6	0	4	5	0	0	0
Total retrofit job hours	**142**	0	0	76	0	16	50	0	0	0
Total job cost	**$20,848.28**	$0	$0	$6,000.00	$0.00	$5,988.00	$8,860.28	$0	$0	$0
Total cost for audit	**$1,450.00**	$0	$0	$500.00	$0.00	$375.00	$575.00	$0	$0	$0
Total cost for retrofit	**$19,398.28**	$0	$0	$5,500.00	$0.00	$5,613.00	$8,285.28	$0	$0	$0
EI2 incentive - audit	**$687.50**	$0	$0	$500.00	$0.00	$187.50	$0.00	$0	$0	$0
EI2 incentive - retrofit	**$9,636.47**	$0	$0	$2,500.00	$0.00	$2,806.33	$4,330.14	$0	$0	$0
EI2 incentive - loan	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0	$0	$0
Customer Contribution - audit	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0	$0	$0
Customer Contribution - retrofit	**$1,830.14**	$0	$0	$0.00	$0.00	$0.00	$1,830.14	$0	$0	$0
Leveraged funds - utility (audit)	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0	$0	$0
Leveraged funds - utility (retrofit)	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0	$0	$0
Leveraged funds - federal	**$0.00**	$0	$0	$0.00	$0.00	$0.00	$0.00	$0	$0	$0
Leveraged funds - HCBA, employer, state, local or partner	**$8,694.17**	$0	$0	$3,000.00	$0.00	$2,994.17	$2,700.00	$0	$0	$0
Estimated annual electricity savings (kWh)	**790**	0	0	33	0	368	389	0	0	0
Estimated annual gas savings (therms)	**2292**	0	0	725	0	648	919	0	0	0
Average, estimated annual savings (percentage)	**28%**	0%	0%	36%	0%	20%	28%	0%	0%	0%
Estimated costs savings	**$2,310**	$0	$0	$559	$0	$682	1069	$0	$0	$0
Total number of EI2 loans	**0**	0	0	0	0	0	0	0	0	0
Total number or EI2/Delta rebates	**0**	0	0	0	0	0	0	0	0	0
total number of rebates with an EI2 loan	**0**	0	0	0	0	0	0	0	0	0
total number of rebates without an EI2 loan	**0**	0	0	0	0	0	0	0	0	0

A.6 Energy Savers Multi-family Loan Program

	Energy Savers Total	Q1_2011	Q2_2011	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	5960	166	415	1070	385	832	556	574	145	166	843	808
Number of audits - buildings	168	6	20	7	11	7	19	16	13	13	33	23
Number of residential retrofits - units	1984	0	0	23	0	0	0	20	33	219	861	828
Number of residential retrofits - buildings	58	0	0	1	0	0	0	1	2	8	31	15
Size of commercial retrofits - square footage	8342.4	0	0	0	0	8,342	0	0	0	0	0	0
Number of commercial retrofits - buildings	1	0	0	0	0	1	0	0	0	0	0	0
Total audit job hours	598	0	0	18	0	10	0	10	20	80	310	150
Total retrofit job hours	17597	0	0	655	0	800	0	524	660	3672	2604	8682
Total job cost	$4,291,488.56	$0.00	$0.00	$88,075.00	$0.00	$140,500.00	$0.00	$209,476.36	$134,529.20	$881,006.00	$1,011,123.00	$1,826,779.00
Total cost for audit	$29,500.00	$0.00	$0.00	$500.00	$0.00	$500.00	$0.00	$500.00	$1,000.00	$4,000.00	$15,500.00	$7,500.00
Total cost for retrofit	$4,261,988.56	$0.00	$0.00	$87,575.00	$0.00	$140,000.00	$0.00	$208,976.36	$133,529.20	$877,006.00	$995,623.00	$1,819,279.00
EI2 incentive - audit	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
EI2 incentive - retrofit	$2,061,780.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$718,233.00	$1,343,547.00
EI2 incentive - loan	$1,132,786.00	$0.00	$0.00	$85,000.00	$0.00	$0.00	$0.00	$132,900.00	$105,170.00	$644,716.00	$0.00	$165,000.00
Customer Contribution - audit	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Customer Contribution - retrofit	$598,754.36	$0.00	$0.00	$2,575.00	$0.00	$140,000.00	$0.00	$76,076.36	$11,345.00	$207,695.00	$161,063.00	$0.00
Leveraged funds - utility (audit)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - utility (retrofit)	$444,073.20	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$17,014.20	$0.00	$116,327.00	$310,732.00
Leveraged funds - federal	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - HCBA, employer, state, local or partner	$54,095.00	$0.00	$0.00	$500.00	$0.00	$500.00	$0.00	$500.00	$1,000.00	$28,595.00	$15,500.00	$7,500.00
Estimated annual electricity savings (kWh)	386051	0	0	2510	0	0	0	1175	1839	17681	136694	226152
Estimated annual gas savings (therms)	529029	0	0	10130	0	1600	0	4565	10465	62300	112530	327439
Average, estimated annual savings (percentage)	20%	0%	0%	29%	0%	20%	0%	38%	22%	28%	17%	20%
Estimated costs savings	$567,634.21	$0.00	$0.00	$10,381.02	$0.00	$1,600.00	$0.00	$4,682.50	$10,648.88	$64,068.13	$126,199.43	$350,054.25
Total number of EI2 loans	13	0	0	1	0	0	0	1	2	8	0	1
Total number or EI2/Delta rebates	0	0	0	0	0	0	0	0	0	0	0	0
total number of rebates with an EI2 loan	0	0	0	0	0	0	0	0	0	0	0	0
total number of rebates without an EI2 loan	0	0	0	0	0	0	0	0	0	0	0	0

A.7 City of Chicago Multi-family Retrofit Improvement Loan (MURIL) Program

	Chicago Total	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	585	117	0	117	330	21	0	0	0	0
Number of audits - buildings	6	1	0	1	3	1	0	0	0	0
Number of residential retrofits - units	**434**	0	0	0	0	0	117	60	257	0
Number of residential retrofits - buildings	**4**	0	0	0	0	0	1	1	2	0
Size of commercial retrofits - square footage	**0**	0	0	0	0	0	0	0	0	0
Number of commercial retrofits - buildings	**0**	0	0	0	0	0	0	0	0	0
Total audit job hours	**40**	0	0	0	0	0	10	10	20	0
Total retrofit job hours	**11210**	0	0	0	0	0	2422	1698	7090	0
Total job cost	**$1,990,112.30**	$0	$0	$0	$0	$0	$341,012	$150,500	$1,498,600	$0
Total cost for audit	**$2,000.00**	$0	$0	$0	$0	$0	$500	$500	$1,000	$0
Total cost for retrofit	**$1,988,112.30**	$0	$0	$0	$0	$0	$340,512	$150,000	$1,497,600	$0
EI2 incentive - audit	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
EI2 incentive - retrofit	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
EI2 incentive - loan	**$642,200.00**	$0	$0	$0	$0	$0	$292,500	$150,000	$199,700	$0
Customer Contribution - audit	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
Customer Contribution - retrofit	**$48,012.00**	$0	$0	$0	$0	$0	$48,012	$0	$0	$0
Leveraged funds - utility (audit)	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
Leveraged funds - utility (retrofit)	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
Leveraged funds - federal	**$0.00**	$0	$0	$0	$0	$0	$0	$0	$0	$0
Leveraged funds - HCBA, employer, state, local or partner	**$802,000.00**	$0	$0	$0	$0	$0	$500	$500	$801,000	$0
Estimated annual electricity savings (kWh)	**506000**	0	0	0	0	0	0	51000	455000	0
Estimated annual gas savings (therms)	**46906**	0	0	0	0	0	24790	6820	15296	0
Average, estimated annual savings (percentage)	**19%**	0%	0%	0%	0%	0%	15%	24%	18%	0%
Estimated costs savings	**$91,906**	$0	$0	$0	$0	$0	$24,790	$6,820	$60,296	$0
Total number of EI2 loans	**4**	0	0	0	0	0	1	1	2	0
Total number or EI2/Delta rebates	**0**	0	0	0	0	0	0	0	0	0
total number of rebates with an EI2 loan	**0**	0	0	0	0	0	0	0	0	0
total number of rebates without an EI2 loan	**0**	0	0	0	0	0	0	0	0	0

A.8 Village of Oak Park Multi-family Retrofit Improvement Loan (MURIL) Program

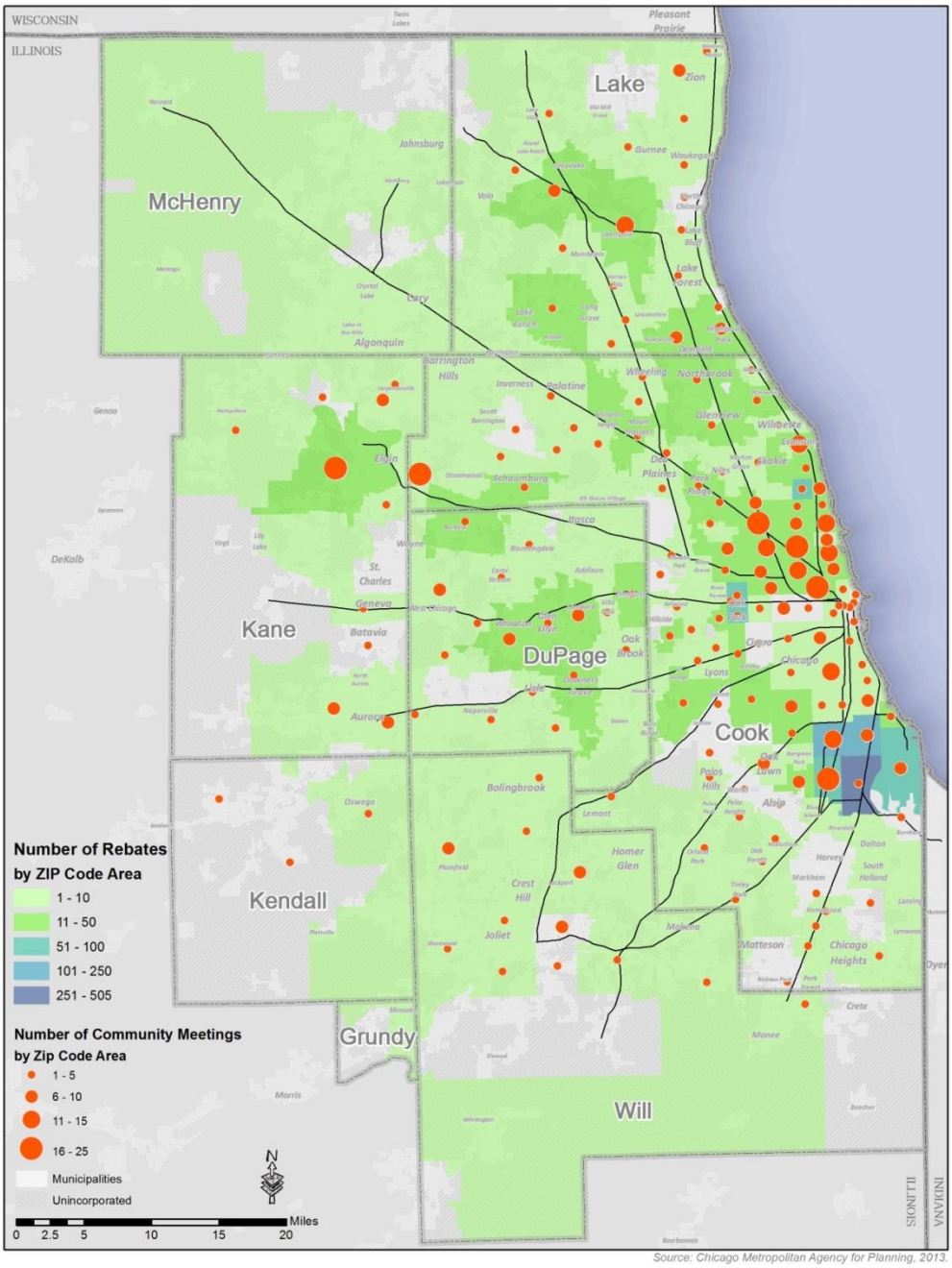
	Oak Park Total	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	34	15	0	4	5	0	0	5	0	5
Number of audits - buildings	12	4	0	2	3	0	0	2	0	1
Number of residential retrofits - units	28	0	6	9	0	2	1	0	5	5
Number of residential retrofits - buildings	9	0	3	1	0	1	1	0	2	1
Size of commercial retrofits - square footage	0	0	0	0	0	0	0	0	0	0
Number of commercial retrofits - buildings	0	0	0	0	0	0	0	0	0	0
Total audit job hours	35	0	12	8	0	4	4	0	4	3
Total retrofit job hours	593	0	82.5	218	0	80	32.5	0	80	100
Total job cost	$156,370.00	$0.00	$50,821.00	$29,770.00	$0.00	$10,300.00	$5,386.00	$0.00	$34,000.00	$26,093.00
Total cost for audit	$4,000.00	$0.00	$1,500.00	$500.00	$0.00	$500.00	$500.00	$0.00	$500.00	$500.00
Total cost for retrofit	$153,870.00	$0.00	$50,821.00	$29,270.00	$0.00	$9,800.00	$4,886.00	$0.00	$33,500.00	$25,593.00
EI2 incentive - audit	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
EI2 incentive - retrofit	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
EI2 incentive - loan	$62,500.00	$0.00	$15,000.00	$15,000.00	$0.00	$5,000.00	$2,500.00	$0.00	$12,500.00	$12,500.00
Customer Contribution - audit	$0.00	$0.00	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Customer Contribution - retrofit	$14,914.00	$0.00	$5,821.00	$0.00	$0.00	$0.00	$0.00	$0.00	$8,500.00	$593.00
Leveraged funds - utility (audit)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - utility (retrofit)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Leveraged funds - federal	$76,456.00	$0.00	$30,000.00	$14,270.00	$0.00	$4,800.00	$2,386.00	$0.00	$12,500.00	$12,500.00
Leveraged funds - HCBA, employer, state, local or partner	$4,000.00	$0.00	$1,500.00	$500.00	$0.00	$500.00	$500.00	$0.00	$500.00	$500.00
Estimated annual electricity savings (kWh)	9	0	0	0	0	0	0	0	9	0
Estimated annual gas savings (therms)	3922	0	655	1125	0	507	165	0	950	520
Average, estimated annual savings (percentage)	15%	0%	15%	15%	0%	15%	15%	0%	15%	15%
Estimated costs savings	$3,316	$0	$423	$1,125	$0	$400	$108	$0	$760	$500
Total number of EI2 loans	8	0	3	1	0	1	1	0	1	1
Total number or EI2/Delta rebates	0	0	0	0	0	0	0	0	0	0
total number of rebates with an EI2 loan	0	0	0	0	0	0	0	0	0	0
total number of rebates without an EI2 loan	0	0	0	0	0	0	0	0	0	0

A.9 IFF Commercial Nonprofit Retrofit Program

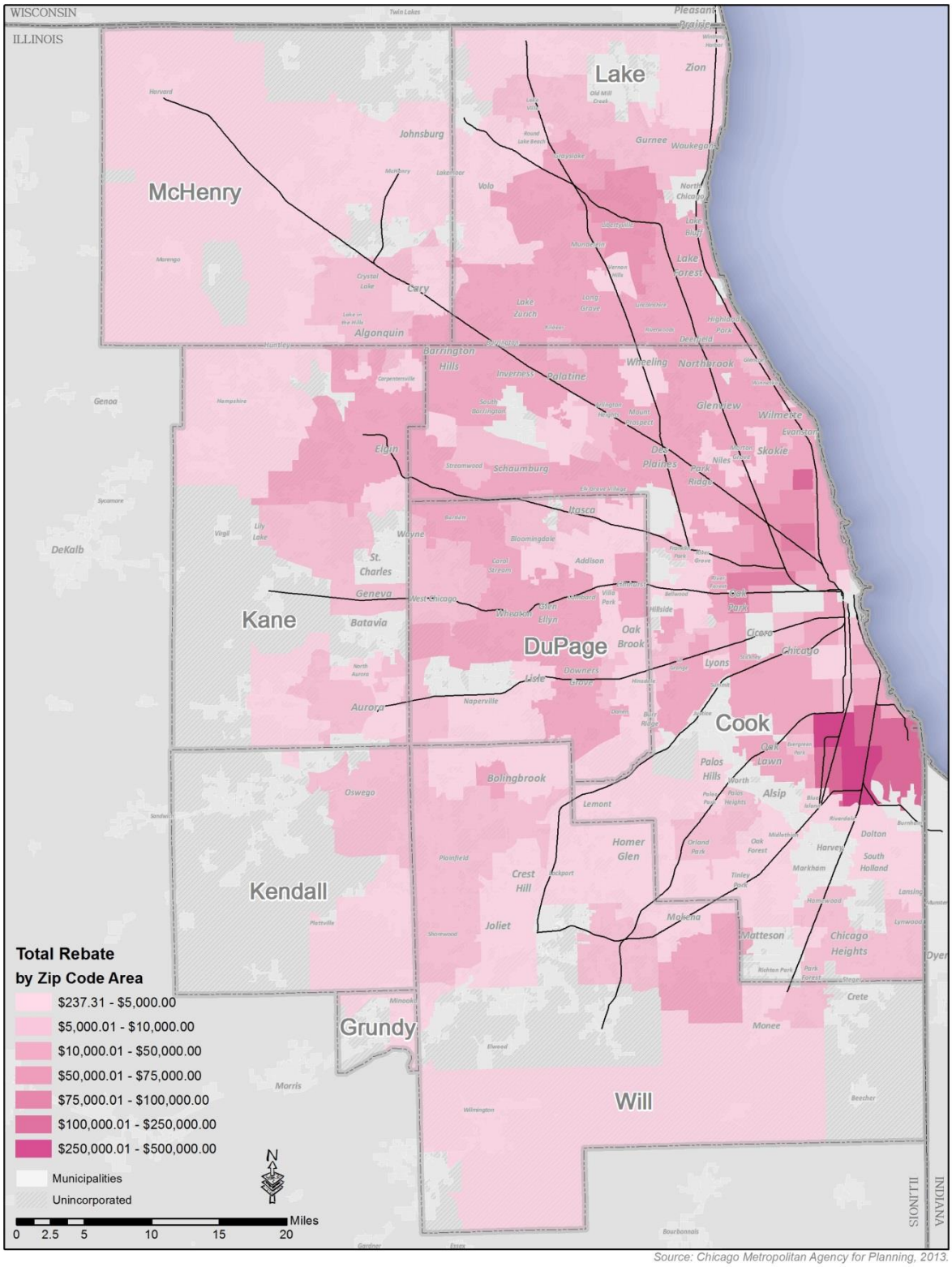
	IFF Total	Q3_2011	Q4_2011	Q1_2012	Q2_2012	Q3_2012	Q4_2012	Q1_2013	Q2_2013	Q3_2013
Number of audits - residential units	50	0	0	0	50	0	0	0	0	0
Number of audits - buildings	41	1	2	1	5	4	4	16	7	1
Number of residential retrofits - units	50	0	0	0	0	0	50	0	0	0
Number of residential retrofits - buildings	1	0	0	0	0	0	1	0	0	0
Size of commercial retrofits - square footage	193127.5	0	32000	0	0	0	99000	0	0	62127.5
Number of commercial retrofits - buildings	6	0	1	0	0	0	2	0	0	3
Total audit job hours	266.5	0	18	0	0	0	218.5	0	0	30
Total retrofit job hours	15199	0	9347	0	0	0	5273.5	0	0	$578.50
Total job cost	$3,013,467.11	$0	$2,100,099	$0	$0	$0	$793,465	$0	$0	$119,903.40
Total cost for audit	$21,416.50	$0	$99	$0	$0	$0	$17,317.50	$0	$0	$4,000.00
Total cost for retrofit	$2,992,050.61	$0	$2,100,000	$0	$0	$0	$776,147.21	$0	$0	$115,903.40
EI2 incentive - audit	$2,250.00	$0	$0	$0	$0	$0	$0.00	$0	$0	$2,250.00
EI2 incentive - retrofit	$10,472.50	$0	$0	$0	$0	$0	$0.00	$0	$0	$10,472.50
EI2 incentive - loan	$1,813,703.21	$0	$1,000,000	$0	$0	$0	$738,703.21	$0	$0	$75,000.00
Customer Contribution - audit	$750.00	$0	$0	$0	$0	$0	$0.00	$0	$0	$750.00
Customer Contribution - retrofit	$41,638.80	$0	$0	$0	$0	$0	$10,971.30	$0	$0	$30,667.50
Leveraged funds - utility (audit)	$0.00	$0	$0	$0	$0	$0	$0.00	$0	$0	$0
Leveraged funds - utility (retrofit)	$21,359.43	$0	$0	$0	$0	$0	$10,258.43	$0	$0	$11,101
Leveraged funds - federal	$0.00	$0	$0	$0	$0	$0	$0.00	$0	$0	$0
Leveraged funds - HCBA, employer, state, local or partner	$39,579.00	$0	$0	$0	$0	$0	$26,079.00	$0	$0	$13,500
Estimated annual electricity savings (kWh)	314816	0	39538	0	0	0	195361	0	0	79917
Estimated annual gas savings (therms)	28500	0	6359	0	0	0	19431	0	0	2710
Average, estimated annual savings (percentage)	16%	0%	15%	0%	0%	0%	20%	0%	0%	12%
Estimated costs savings	$53,103	$0	$8,000	$0	$0	$0	$34,466	$0	$0	$10,637
Total number of EI2 loans	5	0	1	0	0	0	3	0	0	1
Total number or EI2/Delta rebates	0	0	0	0	0	0	0	0	0	0
total number of rebates with an EI2 loan	0	0	0	0	0	0	0	0	0	0
total number of rebates without an EI2 loan	0	0	0	0	0	0	0	0	0	0

Appendix B: EI2 Single-Family Residential Outreach and Rebate Distribution Maps

B.1 EI2 Community Meetings Held vs. Number of Rebates by ZIP Code

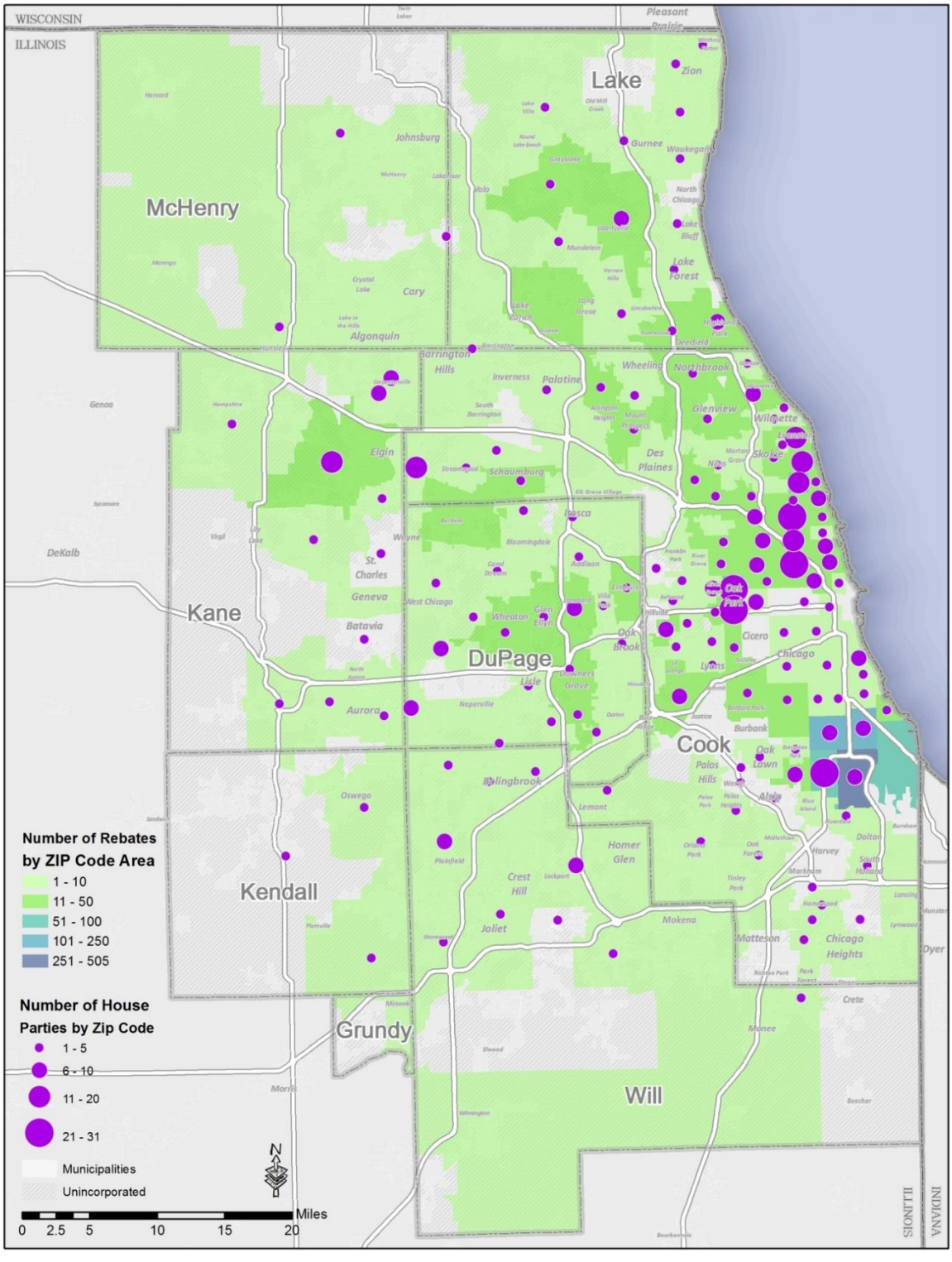


B.2 Total Rebate Amount Distributed by ZIP Code



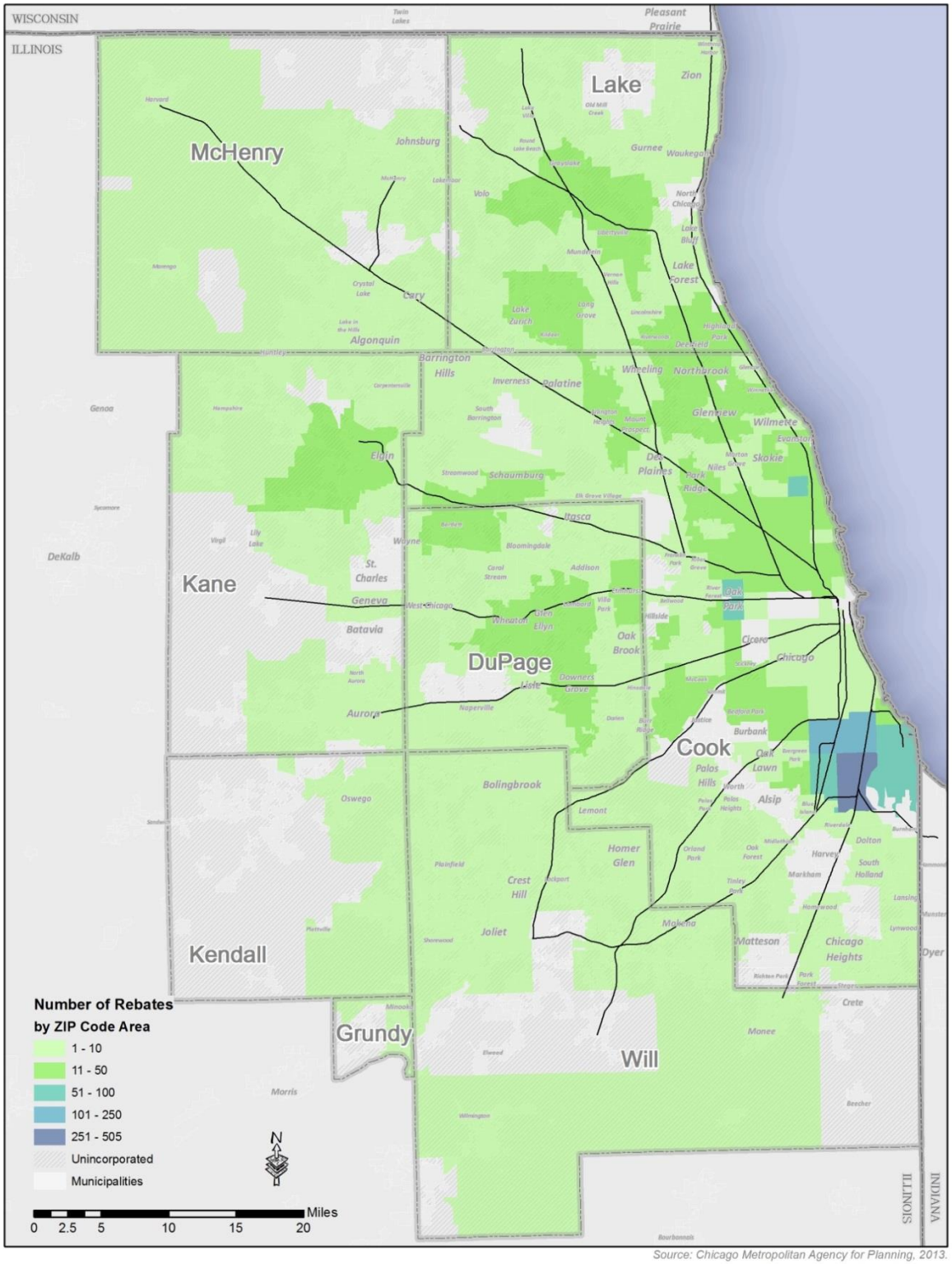
Source: Chicago Metropolitan Agency for Planning, 2013.

B.3 Number of EI2 House Parties vs. Number of Rebates by ZIP Code



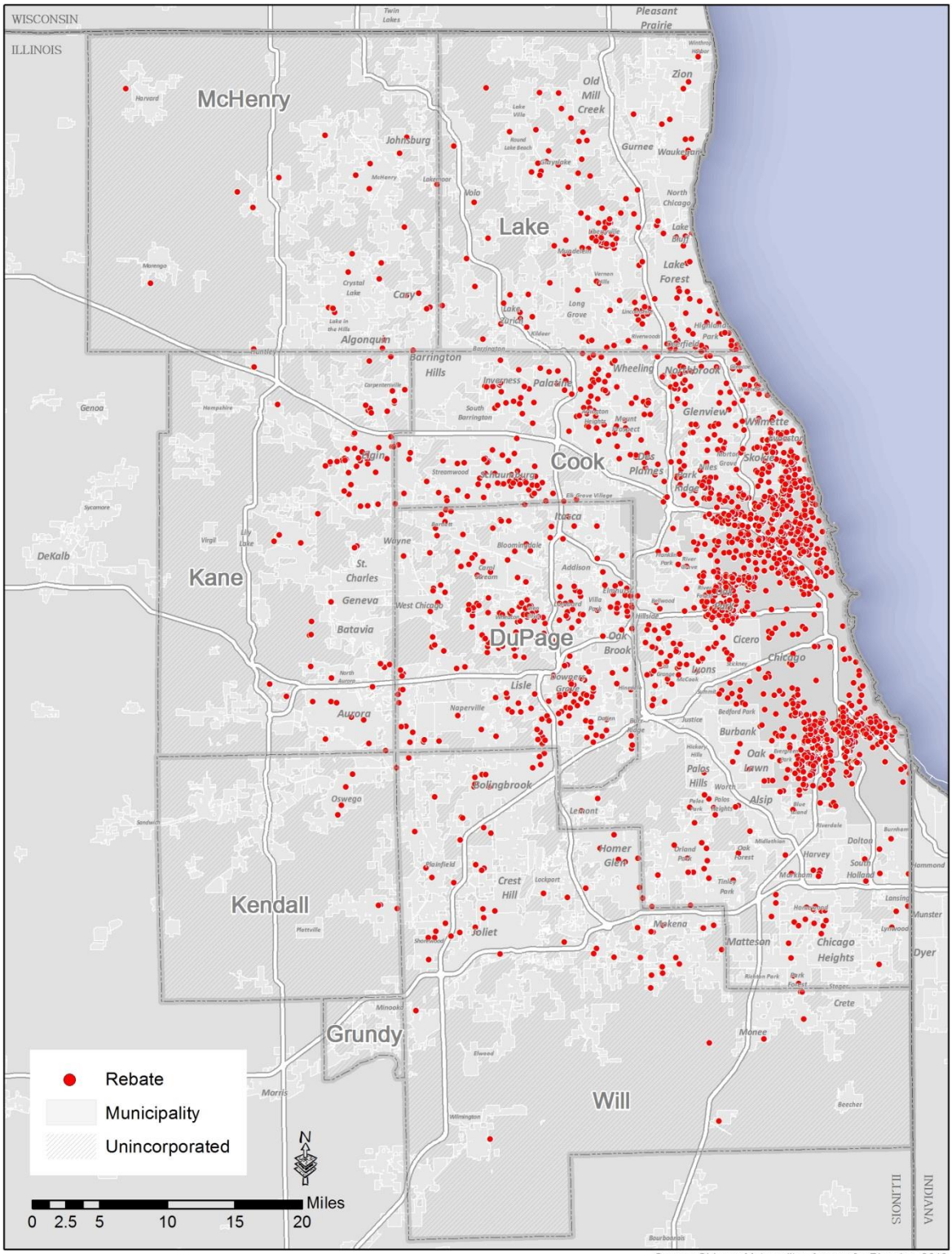
Source: Chicago Metropolitan Agency for Planning, 2013.

B.4 Number of EI2 Rebates by ZIP code



Source: Chicago Metropolitan Agency for Planning, 2013.

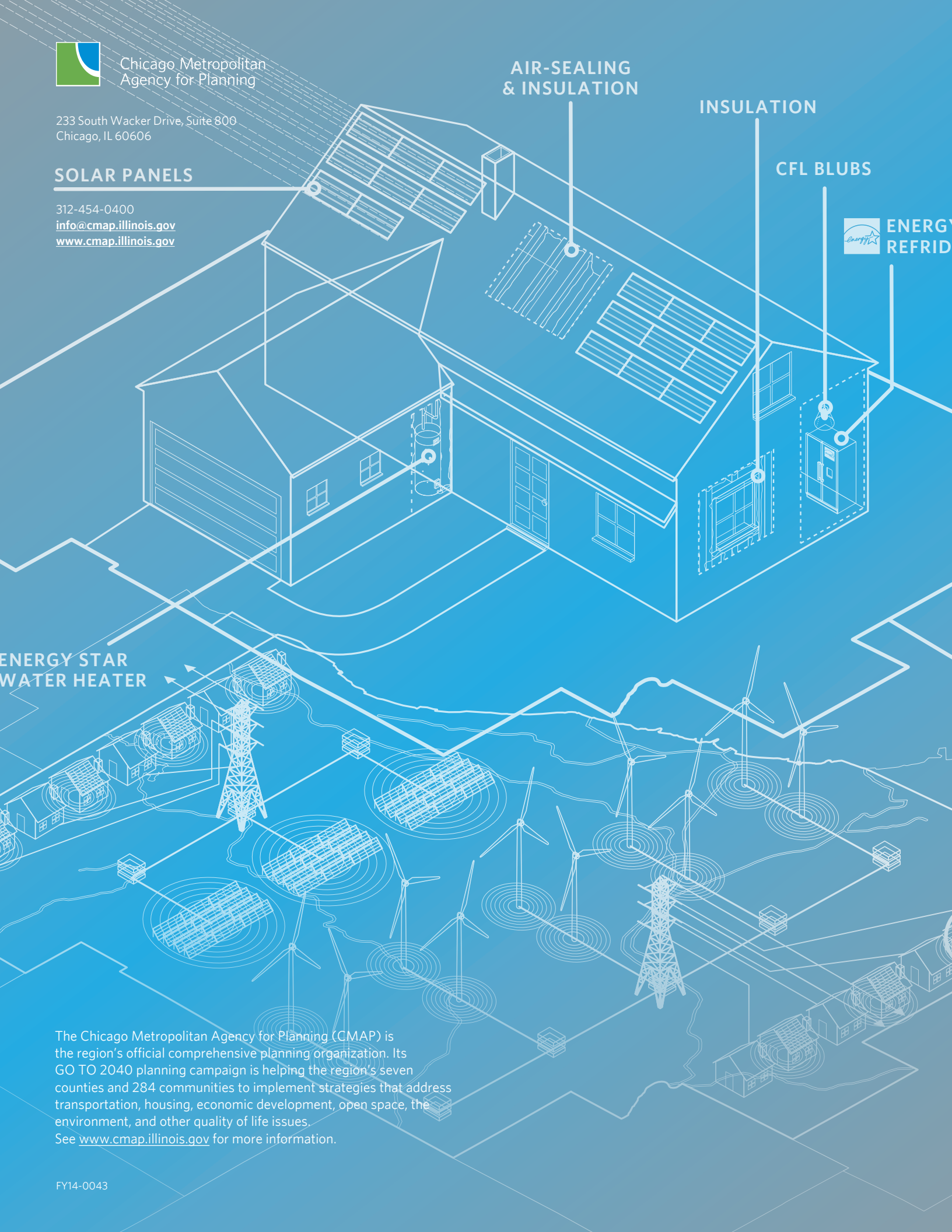
B.5 Individual EI2 Rebate Distribution throughout CMAP Region



Chicago Metropolitan
Agency for Planning

233 South Wacker Drive, Suite 800
Chicago, IL 60606

312-454-0400
info@cmap.illinois.gov
www.cmap.illinois.gov



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See www.cmap.illinois.gov for more information.

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