

# **Generating Demand for Green Jobs: Transforming the Residential, Commercial, and Institutional Energy Efficiency Retrofit Markets through Community Partnerships**

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## **ABSTRACT**

Today, many people wonder if it is possible to fulfill the green jobs promise. What stands in the way of creating good green careers that reduce our carbon footprint and sustain our communities? Currently slow market demand and high market barriers exist for energy efficiency retrofits. Property owners/dwellers face significant barriers in up-front financing and complex policies, and many workers face high levels of safety and wage violations in the informal cash economy. Over the course of two years, the authors examined a handful of case studies from across the country that attempt to transform the residential and commercial retrofit markets by utilizing community based partnerships to stimulate market demand, bundle properties into more attractive contracts, and act as a trusted, single point of contact for various stakeholders. By bundling together different properties in a single contract, these community-partnership organizations help contractors reduce marketing costs, achieve higher economies of scale, and create enough long-term confidence to hire more workers. These case studies share common themes and utilize innovative strategies to finance projects, engage property owners, and produce results. This paper will present barriers to residential and commercial retrofit markets, analyze results from innovative case studies, and present recommendations for shaping effective programs that transform markets by utilizing community-based organizations to increase demand for energy efficiency retrofits and quality green careers. The paper will build upon research from the authors' newly released book, *Beyond Green Jobs: Building Lasting Opportunities in Energy Efficiency*.

## **Introduction**

Low market demand and high market barriers still exist for the energy efficiency retrofits market (Sciortino, et al. 2012). Programs which aim to build and sustain the energy efficiency market face the tough challenge of generating the level of demand needed to attract investment from multiple stakeholders, namely contractors, financial investors, lending institutions, and property owners and occupants. Thus far, utility-based incentive programs, which hold the largest share of the energy efficiency market, still have not developed effective mechanisms to overcome the information barrier resulting in consumers limiting their investment to measures covered by rebates. A study of over 150+ existing energy efficiency incentive programs for residential energy efficiency in the U.S. found that most of them reached less than 0.1% of their potential customers (Fuller 2008, 41). Without a larger investment by utilities and building owners in comprehensive energy efficiency measures, lending institutions and contractors cannot justify their participation in the market. The result is an energy efficiency market dominated by low-road contractors that enter the market to “chase rebates” producing low-quality work and low-quality jobs (CCA 2012).

An effective strategy to dealing with this challenge, which is yielding powerful positive outcomes, is to generate demand for retrofits through grassroots mobilization and community organizing. This community-based strategy focuses on educating and empowering property owners to leverage their economic power to reduce GHG emissions. These efforts help property owners understand that through retrofits, they can reduce their energy bills, increase indoor comfort, and create good local jobs. The emphasis is on the social agency of individuals who strategically combine their economic power to build a sustainable economy that meets triple-bottom line goals. That is, building an energy efficiency market that bolsters the environment and simultaneously creates investment and career opportunities which can be accessed by low-income, communities of color. The more people see the value of energy efficiency, encourage their peers to commit to energy efficiency, and receive easy-to-use tools to access affordable services, the greater the demand will be for energy efficiency retrofits. Community organizing for energy efficiency retrofits can create more jobs and more contracting opportunities and will push more investors and lenders to support energy efficiency efforts (Messner 2012).

Over the course of two years, the authors examined several energy efficiency programs from across the country that attempt to transform the residential and commercial retrofit markets by utilizing partnerships with community based-organizations. These projects were selected based on several criteria, namely their prominence in popular discourse related to energy efficiency, the willingness of program implementers to engage with the researchers, and the geographic distribution of the programs across several regions of the United States.

These partnership-based programs are developing innovative strategies to stimulate market demand, engage community residents and capture relevant data for monitoring, verification, and analysis. These programs utilize innovative strategies to finance projects, aggregate demand and establish the market infrastructure that will sustain energy efficiency programs over the long-term and bring them to scale. In this paper we analyze results from these innovative strategies, and present recommendations for shaping effective programs that transform markets by utilizing community-based organizations to increase demand for energy efficiency retrofits and quality green careers.

## **Demand Generation and Place-Based Strategies**

One of the major challenges to bringing energy efficiency programs to scale is that currently the market is fragmented and for the most part lacks coordinated efforts to educate building owners and dwellers on the benefits of energy efficiency retrofits. Additionally, the market lacks high standards which can ensure the quality of energy efficiency work as well as the quality of the jobs created (White, et al. 2010, CCA 2012). These features of the energy efficiency market are especially pronounced in the residential sector of the construction industry where contractors may have to negotiate small-scale projects with individual homeowners.

A solution to this problem is adopting a place-based approach to energy efficiency retrofits that is focused on blocks of homes and buildings or even whole neighborhoods. This approach enables the bundling of properties into more attractive contracts which can be managed by energy efficiency programs that partner with community-based organizations, and can act as a trusted, single point of contact for various stakeholders. By bundling together different properties in a single contract, community-based partnerships help contractors reduce marketing costs, achieve higher economies of scale, and create enough long-term confidence to hire more workers. Beginning with in-depth research, the program can then tailor energy efficiency

initiatives to address demographics, building conditions, and other conditions specific to that area. Also, by looking at neighborhood-wide and supply chain improvements, a place-based, deep green program can maximize environmental, economic, and social benefits.

A place-based approach requires stakeholders and decision-makers to develop a comprehensive analysis of a particular community. Programs begin by conducting a general assessment, which can include:

1. General demographics of the residents (race, income, gender, age, occupation), workers, and businesses;
2. Ratio of building owners to renters/lessees in neighborhoods;
3. Building types (high rise commercial buildings, large multi-family housing units, light manufacturing facility, single-family home, etc.);
4. Building uses (retail, office, entertainment, housing, etc.);
5. Building ages;
6. Regional weather patterns;
7. Availability of public financial incentives to invest in energy efficiency; and
8. Levels and availability of private financing.

A place-based approach considers how its programming can support local economic and community development. By understanding the unique characteristics of local markets, a place-based program can design responsive marketing strategies that directly target its constituencies. Tailoring outreach to the community's needs helps property-owners sign on to retrofit programs more rapidly, thereby growing the market. Such outreach provides them with resources and education on how to access the financing needed to perform the retrofits, and how to maintain the building over time to maximize the impact of the retrofits. Moreover, beyond just the construction industry, energy efficiency retrofits can benefit many other sectors, including manufacturing, design, research and service work. By analyzing the broader economic context, a program can make decisions that maximize its economic impacts. Therefore, by focusing on a particular geographic area (or set of geographic areas), an energy efficiency program which utilizes a place-based approach can effectively coordinate its marketing strategies to capture a greater market share.

Finally, a key component of place-based strategies is community organizing to bridge the information gap that often exists among building owners and community residents with respect to energy efficiency retrofits. By mobilizing community members and utilizing pre-existing relationships and networks present in a community, community partnerships enable practitioners to disseminate information through trusted channels. Community organizations often best understand local residents and businesses, their needs and assets, their interests, and how best to communicate with them. They therefore have a good understanding of how to motivate residents and business-owners to sign up for energy efficiency programs. This is especially true in low-income communities and other disenfranchised communities that may not be able to access information and programs as easily as other communities. Additionally, when a building owner or homeowner learns how their neighbors are benefitting from energy efficiency they are more likely to consider participating in the program. In this way, community organizing can provide effective outreach and education for energy efficiency programs, encouraging behavior changes from residents and business owners to maintain the success of energy efficiency over time (Fuller 2008).

In the last few years, energy efficiency programs such as Groundswell, Sustainable Works, Clean Energy Works Portland, and Long Island Green Homes have developed place-based models for energy efficiency with varying degrees of success. Because many of the existing energy efficiency programs are relatively new, it is difficult to measure how many of them utilize place-based models for energy efficiency. However, the Department of Energy did require elements of a place-based approach for the Better Buildings Program through their Energy Efficiency and Conservation Block Grants (EECBG). The EECBG grantees along with other energy efficiency programs that did not receive DOE funding but utilized the DOE guidelines to develop their own programs are also adopting place-based strategies. In the next section we compare and analyze some of these innovative programs to better understand what makes them successful and how these features can be replicated on a broader scale.

### **Groundswell (Washington, D.C.)**

After working on the successful 2008 Obama presidential campaign, the co-founders of Groundswell (formerly the DC Project/Weatherize DC) decided to put their community organizing experience to work in a new way. Through Groundswell, they developed an innovative and powerful community organizing model to create demand for energy efficiency upgrades in the residential market.

At the outset, Groundswell faced a significant financing hurdle. It had to require homeowners and landlords to pay all up-front costs of home energy upgrades without any public subsidies. To meet this challenge, Groundswell decided to target middle to high-income neighborhoods for its pilot program. Elizabeth Stewart, former National Program Director at Groundswell, describes their organizing model:

“What we are doing is a blend of organizing and community development. We are running small campaigns within a much larger time frame of ongoing programs. We create our own sense of urgency through milestones and benchmarks, but it is not defined by getting a candidate elected. We break up the engagement into smaller asks. We don’t start with ‘Do you want your home weatherized?’ Instead we ask, ‘Are you interested in attending a meeting in your neighborhood?’ We feel these tactics have a lot [to offer] for sustainability, for green sectors. What’s driving these sectors is concern for the environment and creating more sustainable living spaces...We are finding people are excited to engage civically, spend dollars in a way in which they can see a direct impact, connect with their neighbors, and engage as volunteers knowing they are helping their neighborhood’s environment and improving the local jobs picture (Stewart 2011).”

Groundswell’s organizing model is rooted in community organizing practices: building relationships, fostering trust, and providing value. They have created an organizing system that focuses on identifying local volunteer leaders to recruit other volunteers through their networks. In this manner, they have created church- and neighborhood-based teams. Currently, Groundswell has about 50 lead volunteers who have recruited another three to five hundred volunteers from local schools and churches.

Stewart says that this organizing model emerges from the theory that relationships build economies. Groundswell’s role is to identify existing relationships/networks and develop a plan

that systematically creates avenues for how these groups can pool their dollars to build economic power and complete energy efficiency upgrades. Groundswell's successful model of organizing to generate demand for energy efficiency has brought it national attention (Groundswell 2012, Press Clips).

In their initial pilot program called "Weatherize DC" that focused on residential customers, Groundswell was able to achieve significant levels of participation, and also learned many lessons that they continue to apply in residential and non-residential markets. Overall, the initial pilot program was able to get 200 homeowners to sign up to begin the process of retrofits, which were 9% of all of the homes that were contacted. Of these 200 initial homeowners, the pilot program was able to complete 138 audits and convert 45% of these audits into actual retrofit work. This resulted in the creation of 16 new jobs, and the WeatherizeDC program was able to place 14 individuals from historically disadvantaged backgrounds into these positions (FoundationSource 2011). Recently, the Long Island Green Homes Initiative partnered with Groundswell to develop its own community organizing strategy and to continue building the energy efficiency market in the Town of Babylon, New York.

Groundswell re-launched as a national initiative in February 2012. One of its goals is to continue aggregating community demand for energy efficiency and for skilled workers to perform the retrofits. The second goal is to aggregate demand for and purchase cleaner, more renewable energy sources. Groundswell is building the local market for energy efficiency retrofits not just in the residential sector, but also in the institutional sector. Groundswell's approach carries many advantages. Because the churches and other community institutions are in a competitive utility environment, meaning that there are multiple utility companies competing for customers in the same market, the bulk power purchasing RFP allowed them to negotiate competitive rates from the utility. Additionally, the utility agreed to renegotiate parts of their energy efficiency incentive programs to better serve the churches' needs. One such adjustment removed a barrier to energy efficiency retrofits: it took away the penalties previously assessed against groups who bought energy in bulk at a pre-determined rate and then reduced their energy consumption after. By organizing a single energy buying bloc, and by negotiating with the utility companies on energy rates as well as energy efficiency program incentives, these organized community institutions are able to increase the amount of money and resources they have to invest in energy efficiency retrofits. This in turn generated more institutional demand for energy efficiency retrofits.

In Groundswell's past experience, through negotiating with utilities for these energy bundles, they yielded better energy efficiency and other incentives for these customers. Thus, not only is Groundswell's model able to save these institutions money on their energy bills and help them transition to cleaner energy sources that reduce greenhouse gas emissions, Groundswell has also been able to help these institutions achieve higher energy efficiency outcomes by ensuring that utility incentive programs are accessible and relevant to these groups. Thus, institutions such as churches, non-profits, and unions can invest in more comprehensive, whole building energy efficiency measures by bundling electricity purchases and saving money on their utility bills, which can then finance deeper energy efficiency retrofits on their facilities. For example, with additional utility program incentives and money saved from lower utility bills, these institutions can opt to adopt advanced lighting controls for their buildings instead of just switching to more energy efficiency lightbulbs, or they can opt to purchase a more efficient Air Conditioning system as compared to just wrapping the air ducts to increase energy efficiency.

So far, the Groundswell initiative has had some very promising outcomes. They initially organized thirteen churches into an energy-buying cooperative to help the churches select a power provider. They created a Request for Proposals (RFP) for power providers and saved the churches \$100,000 a year collectively. Groundswell then started to work on a plan for a larger energy procurement that included 37 churches who invested in 100% renewable energy. Groundswell executed a joint purchasing agreement for all renewable electricity between 37 churches in the Washington, DC area, and put an RFP out to bid. This means 37 different churches agreed to buy their electricity together in bulk to attract more favorable rates than they could if they purchased the electricity individually. With this investment in 100% clean energy, the churches are still able to save hundreds of thousands of dollars (Laskow 2012). Groundswell is currently expanding the scope of their organizing program beyond churches, and are organizing other community institutions such as temples, schools, food banks, labor organizations, and low income housing groups. The latest round of combined energy purchasing included 100 such groups (Laskow 2012). Through these efforts, Groundswell's work has resulted in approximately \$5 million in clean energy investments while at the same time saving these institutions an average of 20% on their annual energy bills (Laskow 2012).

This may positively affect utility companies as well. Utility companies benefit by competing for an aggregated customer base rather than spend money marketing to individual customers. Utilities may also see value in helping potential customers save on their utility bills, which could help the utility meet its regulatory energy efficiency portfolio requirements. For example, investor-owned utilities in California are obligated to meet stringent and ambitious greenhouse gas reduction goals, which they must meet by increasing energy efficiency and renewable energy outcomes for customers in their service areas (CPUC 2004).

Building this type of relationship with communities, utilities and contractors, stemmed from their concern that the Department of Energy's Better Buildings retrofit programs may not leave behind a financially sustainable market for energy efficiency upgrades once public funding draws down. "This is not just a flash in the pan but an industry that is being created," said Stewart, "and that is fostering innovation."

### **SustainableWorks (Seattle, Washington)**

Washington State's SustainableWorks, in collaboration with the Sound Alliance and the Spokane Alliance, also uses a neighborhood-based organizing model to generate demand for energy upgrades. Randy Scott, Secretary-Treasurer of the Washington State Association of the United Association of Plumbers and Pipefitters (UA) explains how Washington local unions partnered with local affiliates of the Industrial Areas Foundations (IAF) to create SustainableWorks in an effort to create jobs in the single-family home residential retrofits market (Scott 2011).

In 2009, the Washington state legislature passed a bill that provided ARRA funds (\$16 million) for pilot programs to perform home retrofits based on an existing small scale pilot run by the Spokane Alliance. Scott describes how the Alliance worked strategically with members of the State legislature to get SB5649 passed and bring the pilot to a greater scale: "Part of [the reason the bill passed] was that we were sitting in senators' and representatives' offices as groups. It wasn't just the labor community coming to talk to Senator Rockefeller, for example, it was communities of faith, folks from the archdiocese, folks from Jewish community, it was a broad based group. The Alliance used its people power to get that bill through." After passage,

SustainableWorks then obtained \$4.1 million through an RFP process from SB5649 to launch larger scale projects in both Spokane and the greater Seattle area (Scott 2011).

According to Scott, another challenge was creating and coordinating a plan for the three main construction crafts involved who had shown an interest in this work locally – the IBEW (electrical workers), the Sheet Metal Workers and the UA (Plumbers) – to work together in this new residential energy efficiency effort. New to the single-family home residential retrofits market, the three craft unions started by significantly ramping up a joint training workshop series which was created during the Spokane pilot:

“The trades have long histories with each other, long-standing competition in the marketplace, long-standing jurisdictional disputes... A lot of positive stuff but also a lot of negative stuff... One of the things we told the business managers [from the three craft unions] was they were going to have to leave that stuff outside... We are talking about having electricians, sheet metal workers and plumbers in people’s homes and they need to be able to get in and get out, and do their jobs as efficiently as possible. So we set up a training program that put journeymen from those three crafts in a room together and showed them what would need to be done so that they could get in and get out, and try to mesh the gears [for] what they were doing in the homes (Scott 2011).”

As a result of this joint effort, the partnership developed a class called “Systems Training,” which any craft union member participating in SustainableWorks was required to take. As Scott explains, three additional crafts joined SustainableWorks: the Laborers (LiUNA), the Painters (IUPAT) and the Mechanical Insulators. In partnership, the six crafts created a working group which meets monthly to discuss issues such as jurisdiction and wage rates to ensure that the work is highly coordinated and that workers can access family-supporting wages and benefits in the residential sector (Scott 2011).

To generate demand for retrofits, SustainableWorks developed a customer outreach strategy in partnership with its sister organizations the Sound and the Spokane Alliances. At its core are fundamental community organizing practices that emphasize face-to-face contact, building trust through support of locally respected organizations and engaging a wide range of community volunteers. While the outreach strategies initially focused primarily on working through the Alliances’ neighborhood-based member organizations, especially its churches and synagogues, it has also figured out a way of tapping into the more scattered membership of its union partners.

When targeting one South Seattle neighborhood, for example, they identified over 8000 union member who lived in the area. A team of 80 local union and other Alliance volunteer leaders were then trained and sent out to canvass those members, much like what is done in “Labor Neighbor” get-out-the-vote drives but this time with a goal of giving people an opportunity for a quality, low-cost retrofit rather than getting them to the polls. This activity creates more community knowledge about the value of energy-efficiency, while creating a dynamic of peer pressure and support for community residents to sign up for retrofits. Like Groundswell, SustainableWorks targeted medium- to high-income neighborhoods where they use participating homes as models to showcase the positive impact of energy upgrades. SustainableWorks also tracks energy savings, job creation, and other data so that program coordinators can learn from the current successes and challenges and improve future programming (Scott 2011).

To make its work feasible, SustainableWorks uses an innovative method of aggregating demand. After it audits homes for energy use, SustainableWorks combines residential buildings into larger projects with multiple residences by bundling projects into packages (e.g., 6-10 homes per bid package). Figure 1 below demonstrates how this bundling process works to create a bid package of multiple homes. Contractors then bid on these packages. Contractors benefit financially since they do not have to spend the resources on advertising in newspapers and going door to door in neighborhoods to find each of these projects. Contractors get a steady stream of predictable work, which helps them make better business decisions on the amounts of materials, equipment, and workers they will need over the long-term. Acting as a project developer and bundler, SustainableWorks helps contractors keep down the overall costs to complete the work, therefore reducing programs costs overall (Scott 2011).

**Figure 1. Bundling Energy Efficiency Retrofits**



Source: California Construction Academy - UCLA Labor Center 2012

Contractors who choose to participate in the program must agree to hire pre-apprentice graduates from partner programs, which currently include the Seattle Vocational Institute, Got Green, and Helmets to Hard Hats. These pre-apprentice graduates then enter into registered joint labor-management apprenticeship programs with their respective unions, and the work hours they complete with SustainableWorks contractors contribute to their required on-the-job training hours. Additionally, the program requires contractors to employ a workforce in which 20% of installers are apprentices; 25% of those are first-year apprentices (Scott 2011). The requirement for employers to use apprentices, especially first-year apprentices, opens up new opportunities for entry-level workers to access sustainable construction careers. This is one model of how an energy efficiency program has generated consumer demand for energy efficiency and connected that program to quality career pathways through apprenticeships for workers who implement the energy efficiency retrofits. There are certainly other workforce development and contractor engagement models. However, because this paper is focused primarily on demand generation and not workforce development, we do not focus on the other models here.

Since the program started, SustainableWorks has completed over 1,000 energy audits and retrofitted over 365 homes by utilizing their community outreach and bundling model (Dolan 2012). In addition, the program's has generated approximate total annual energy savings of 2.1million kWh, a total annual fuel costs savings of \$106,492, and a total annual carbon savings of 596.4 tons (Dolan 2012). The program has created over 35 family-wage jobs and provided 2,000+ hours of training for jobs in the clean energy economy (Seattle Foundation 2012).



## **Groundswell and SustainableWorks: Looking Forward**

The Groundswell and SustainableWorks projects show that using community organizing strategies for energy efficiency projects can create some exciting results. By generating demand in middle to higher income communities and community institutions (churches, non-profits, unions) where program participants have some money to spend on improving building energy performance, these projects have helped energy efficiency increase in scale in the private sector while also creating quality careers and contracting opportunities for diverse communities. Mobilizing communities and leveraging established social networks remedies the persistent problem of a lack of information and the perceived risks regarding retrofits, which have been some of the more significant obstacles to launching energy retrofit programs.

The challenge moving forward will be to take models like Groundswell and SustainableWorks, which rely on communities who have the dollars to spend on energy efficiency upgrades, and to develop them for lower-income communities. One possibility is to engage affordable housing developers and landlords, who can use energy efficiency upgrades to lower energy costs and operation costs for residents in the long term.

In addition, another challenge for these programs moving forward is to establish cost effectiveness and sustainable financing over the long-term. Even though both of these programs involve hundreds of volunteers who donate their time, they still require staff to recruit and organize volunteers, and additional administrative capacity to process new potential customers. Groundswell's program has a diverse set of foundation funders and in-kind supporters, and are not dependent on ARRA funding (Groundswell 2012, Supporters). Sustainability of funding will be critical for the group moving forward, but because of their diverse funding portfolio, they have set the groundwork for financial sustainability. The SustainableWorks program is currently very dependent on ARRA funds, and is in the process of developing a financial model that can be sustained in the absence of ARRA funds. For example, SustainableWorks has developed a partnership with the Puget Sound Cooperative Credit Union which provides low interest, low-fee loans to homeowners and businesses to use to retrofit their properties (SustainableWorks 2012). However, the current costs of SustainableWorks program administration, such as outreach, education, and interest rate reductions are still being primarily funded by ARRA grants and these costs will need to be covered by other funding sources once ARRA grants are no longer available. Such program sustainability challenges are still emerging and we will continue to study how these groups address them. However, the strategies of community organizing and aggregating energy efficiency demand described above still provide a powerful foundation to permeate new markets and to bring energy efficiency to scale.

## **The City of Los Angeles Green Retrofits Program**

The LA Apollo Alliance, alongside key allies in the City of Los Angeles, mobilized its broad membership base to pass the City's Green Retrofit and Workforce Development Ordinance in 2009. Instrumental in this effort was SCOPE's convening of the Apollo Alliance in 2006. Strategic Concepts in Organizing and Policy Education (SCOPE) is a community organizing, research, and advocacy group that focuses on economic, social, and environmental justice. SCOPE's work is an important example of how to organize communities to support building the energy efficiency retrofit market. SCOPE's approach is based on two principles:

(1) broad outreach to multiple stakeholders; and (2) ensuring the dialogue and education surrounding energy efficiency retrofits is inclusive of the most disadvantaged communities (Barboza 2011).

SCOPE's ability to build a coalition in partnership with the UCLA Community Scholars model was a powerful combination. It demonstrated how community organizing could use applied research to strategically advocate to decision makers to create a locally relevant, comprehensive retrofit and workforce program. Figure 2 below illustrates how these types of collaborative partnerships can foster innovation. Elsa Barboza, SCOPE's Campaign Director, describes the process of moving from a good idea to a concrete, funded energy efficiency program. "Our ideas were theoretical but we had to develop a [concrete] proposal to present to the city. There so many pieces. What is the scale and scope? There are over 1200 publicly owned buildings in Los Angeles. We had the real data to make them energy and water efficient. We thought of a revolving loan and an advisory council and the need for a PLA, but it took years to make it a reality. Back then we thought, 'This is a good idea but why not let the private sector take a first stab at this?' Our position was that the public sector had to take the initiative and be a model for the rest of the region." By connecting diverse stakeholders with university resources, SCOPE, the Apollo Alliance, and the UCLA Community Scholars class created an environment where people can turn good ideas into implementable policies and programs (Barboza 2011).

### Figure 2. Collaborative Partnerships Foster Innovation

Successful energy efficiency retrofit programs must bring together unlikely partners. Through a coordinating entity, these stakeholders can generate tools, new ideas and innovative research to green cities.



Source: California Construction Academy – UCLA Labor Center 2012

To date, the City has retrofitted 22 city-owned buildings with seed funding from the American Recovery and Reinvestment Act. The City has also sold \$12 million of Qualified Energy Conservation Bonds to Wells Fargo, and are currently using that money to expand energy efficiency retrofits to 52 more publicly-owned buildings that are estimated to achieve at least 20% reductions in energy consumption. This effort has resulted in the creation of 40 full-time vocational workers in the City that work alongside existing construction workers to perform these retrofits (GRAC 2012). As ARRA funds are diminishing, the City of Los Angeles just hired a financial consultant to work with the City's Green Retrofit Advisory Council (GRAC) in order to develop a sustainable financing model to retrofit the remaining city-owned buildings

while also creating quality jobs. The financial consultant has proposed the development of a “Retrofit Fund” which would be funded by the cost savings that the city realizes as a result of retrofits, and which would be used to attract more private investments, to retrofit more city-owned buildings, and to pay for the administrative costs of the program. This focus on financial sustainability is critical for the long-term success of the program.

## **Conclusion**

Partnerships with community organizations are producing effective and innovative demand generation strategies for energy efficiency. The energy efficiency programs we analyze in this paper have been able to use these strategies to expand from pilot programs to statewide and national initiatives. They have also been able to successfully implement their programs across the residential, commercial and institutional sectors of the construction industry all the while generating career and investment opportunities for historically disadvantaged communities. Much of this success can be largely attributed to community partners who are able to effectively communicate the economic value and social benefits of comprehensive energy efficiency to building owners and dwellers. By comparison, utilities which still mainly rely on incentive-based programs have experienced some success in the commercial and institutional sectors but have not been able to do the same in the residential sectors (CCA, 2012).

Based on this analysis we find that some potential community-based organizations which are best positioned to participate in energy efficiency programs may include: community organizing groups, churches or other faith-based institutions, civic institutions, and social service agencies. These organizations typically use a combination of different outreach strategies for energy efficiency, which may include: a) door-to-door canvass; b) focus groups; c) social media; d) personal testimonials and word of mouth; e) public service announcements (PSAs) on radio and television; and f) a training curriculum that gets presented at various public meetings.

To build on the success of these community organization partnerships, energy efficiency programs will have to do more research on how to track best practices and outcomes, and on how to establish high work quality and labor standards. The robust partnerships in the City of Los Angeles that actually led to the passage of a public retrofit ordinance, the implementation of the ordinance that has led to energy efficiency retrofits of public buildings, and the continued focus on the financial sustainability of the program over the long-term are good lessons for how to generate demand for energy efficiency retrofits in the public sector. The participation of the building trades in Seattle’s SustainableWorks program is also promising since many energy efficiency programs can benefit greatly from being able to access high skilled training provided by union apprenticeship systems. Last, the high standards set in place for contractors by Groundswell and their community organizing strategies to mobilize community-based institutions to organize their demand for clean energy and energy efficiency sets a good example of how these community organizing strategies can create positive outcomes in the residential and non-residential sectors. Taking the most successful elements of these programs and combining them with the prime market position and resources of utilities can lead to the building of the market infrastructure for energy efficiency on a national scale.

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