



Sustainability Programs in Resource-Constrained Communities



Metropolitan Washington Council of Governments
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Introduction

The following report was researched and completed as part of a summer internship in coordination with internships at the Metropolitan Washington Council of Governments, the D.C. Sustainable Energy Utility and the District Department of the Environment. Its purpose is to evaluate the effectiveness of environmental programs serving resource-constrained areas in the National Capital Region, and to report the lessons these programs teach.

Throughout the District of Columbia and surrounding regions, there are many programs that encourage sustainability and environmentally-conscious lifestyle changes. This report will examine programs that encourage sustainability in resource-constrained communities, focusing on those that are currently implemented in DC and those that may successfully be in the future.

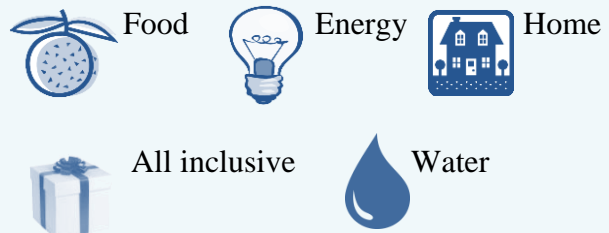
Each program is reviewed as a separate case study. Programs currently in DC are reviewed in the beginning of this report, followed by programs implemented in other states or on a national level. Programs not currently in DC were researched to evaluate whether or not they could fill a void currently found within DC programs as a whole. At the conclusion of the case studies comes findings and recommendations for the future implementation of resource-constrained sustainability initiatives.

Most programs explored in this report were evaluated based on answers to a general survey, helping maintain the unbiased nature

of this report.¹ A list of the questions asked can be found in Appendix A.

Data for this report was collected from program administrators and implementers, websites, and official reports. All interviews were supplemented by annual reports or third party evaluations when possible. A third party evaluation is an evaluation of how successfully a program meets its goals that is completed by a neutral, independent group.

On each page, there is a quick facts box containing information on the location, annual budget (and the number of people it serves), and type (food program, energy program, home ownership program, etc.). The type of each program was categorized by the main goals of the program—if the main goal of the program touches on more than one category, it is listed as all inclusive. The signs for each type of program are listed below.



Within the local and national sections, the programs are listed in no particular order. The title of each program is listed at the top of the page.

¹ Interviews with program directors were either conducted over the phone or through e-mail. If the interview was over the phone, there was often a variation in questions due to the natural flow of the discussion. In some interviews, questions were added or removed based on the nature of the program. Information on the Arcadia Mobile Market was obtained through the 2013 annual report and a “Mobile Market How To” guide and was supplemented by e-mail correspondence.

Case Studies: Local

Arcadia Center for Sustainable Food & Agriculture: Mobile Market


In 2012, the Arcadia Center for Sustainable Food & Agriculture, a non-profit organization with an organic farm, food hub program, and farm to school program, launched its mobile market. This school bus-turned-market distributes food in resource-constrained communities that do not typically have access to inexpensive organic foods. These communities, known as “food deserts,” have benefitted from the mobile market’s weekly stops which bring fresh food and preparation suggestions. All the food the market distributes is produced at the Arcadia Farm and other local farms.

To provide maximum assistance to low-income residents, the mobile market accepts food assistance benefits including WIC (Women, Infant and Children) and Senior FMNP (Farmers’ Market Nutrition Program) vouchers, SNAP/EBT, and food stamps for most products. In addition, the Bonus Bucks program at the market doubles the purchasing power of these food assistance benefits, allowing \$5 to purchase \$10 worth of food.

The market saw a total of approximately 2,500 sales in 2012, 1,014 of which were completed with food assistance benefits. In 2013, both the overall number of sales and the number of food assistance benefits sales increased. A total of approximately 4,000 were completed, and 1,446 of these transactions were completed with food assistance benefits.

In 2013, the market’s expenses totaled \$122,678.00, and their revenue (including sales, donations and grants) was

\$122,697.06. They relied on grants for \$61,500 during the 2012 pilot year, but decreased this reliance by \$9,500 in 2013. Corporate donations greatly increased in 2013, showing the mobile market successfully shifted from grant funding to donation funding. Appendix B has a more specific breakdown of expenses and revenues.


QUICK FACTS		
LOCATION	ANNUAL BUDGET	TYPE
DC	\$122,697 PROVIDED FOR 4,000 SALES (FY13)	

In 2012, the staff employed by the program consisted of a full-time director, a part-time operator, a summer intern and volunteers as needed. The director and one other employee were present at every market stop. In 2013, the part-time operator became a full-time position. In 2014, the program added a market vehicle and expanded the staff to consist of a full-time director, full-time operator, part-time operator, full-time culinary educator and seasonal intern/volunteers.

The market currently has two market vehicles, but plans on growing to five in the future to meet what they see as the full market demand. For more details on the mobile market, including its current schedule, visit www.arcadiafood.org/programs/mobile-market

Weatherization Assistance Program and Low Income Home Energy Assistance Program


The Weatherization Assistance Program (WAP) and Low Income Home Energy Assistance Program (LIHEAP) are under the jurisdiction of the District Department of the Environment (DDOE). Along with the Utility Discount Program, these two programs help district residents pay their current energy bills and lower their future ones. LIHEAP helps residents pay for their energy bills by supplying a credit to help pay current and future bills. WAP aids homeowners by increasing how energy efficient their homes are through retrofits that both protect occupants from extreme weather and lower future bills.

QUICK FACTS (LIHEAP)		
LOCATION	ANNUAL BUDGET	TYPE
DC	\$10,474,258 SERVED 21,519 PEOPLE	

Started in 1981, LIHEAP is a national effort to help low-income residents across the country pay their energy bills. Applicants can be eligible for regular and/or emergency LIHEAP assistance. While an applicant can qualify for emergency assistance if they come into the office with a disconnect notice for their heating/cooling, they can also qualify for regular assistance without a disconnect notice if they fall below a certain income level. Residents can receive both regular and emergency assistance in one year, and are eligible to

apply for assistance annually. Those receiving regular assistance get between \$250 and \$1,500, with individual values differing based on household size, income, type of dwelling, and heating/cooling source. It is estimated that 21,519 residents received aid in FY13.

Created in 1976, WAP also helps residents save money on energy bills, but in a different way. WAP performs audits for eligible residents and installs recommended energy efficiency measures. These measures help create safer, more efficient homes for residents through air sealing and insulation. Because these services provide a long term benefit, residents can only receive WAP aid once, although they can receive it in conjunction with LIHEAP aid.

QUICK FACTS (WAP)		
LOCATION	ANNUAL BUDGET	TYPE
DC	\$510,866	

Although WAP does not have the same emergency assistance LIHEAP has, the qualifications for assistance are the same as LIHEAP's qualifications for regular assistance. Another similar feature of both programs is that both are federal programs executed at a local level. This means federal funding is used to execute both programs.

Within DDOE, nine staff members handle the day-to-day functions of the programs, including one branch chief, two program managers, two administrative assistants, and four energy auditors.


RiverSmart Homes

The District Department of the Environment's RiverSmart Homes (RSH) program is the government's leading effort to decrease storm water runoff in the district. Starting in 2008, the program provides incentives for district residents to install measures that will decrease the storm water runoff from their properties. After providing a storm water audit, a RSH employee will make recommendations to a homeowner for any of several changes they can make to their property including installing a rain barrel, constructing a rain garden, planting native plants (BayScaping), replacing impervious surfaces with pervious pavers, and planting shade trees.

To encourage residents to implement one or more of these measures, the program provides significant funding and rebates to reduce the cost of each aspect. For example, the \$400 rain barrels RSH recommends will be installed for only \$50. Each year, the DDOE allocates approximately \$1.1 million to RSH to make these discounts possible.

Everyone living in the district is encouraged to participate in the program; however, incentives were put in place to increase the participation in resource-constrained areas in DC. The 2014 summer Hickey Run Heroes (HRH) program is one such example—in a poorer area that typically has had lower participation rates, RSH increased the incentives: now, instead of receiving \$1200 towards a rain garden, BayScaping, or pervious pavers project, residents within the Hickey Run watershed (mainly residents living in Ward 5) are eligible for twice as much funding. Additionally, the block within the watershed with the highest

participation by the end of the summer will win a green block makeover (a prize that will vary based on the individual block's needs). The participation target for this objective was 25%, and as of August 2014, the RSH team was close to achieving it and thus successfully increasing sustainability program participation in a resource-constrained area.

QUICK FACTS		
LOCATION	ANNUAL BUDGET	TYPE
DC	\$1,100,000 HELPS MEET GOAL OF 1,200 AUDITS	


Overall, the RiverSmart Homes team evaluates their success in a few ways. There are numeric goals (completing 1,200 audits per year, installing 950 rain barrels, etc.) that are reported to the mayor's office, participation/satisfaction goals that are evaluated through participant surveys and the number of people requesting audits, and internally-set, unofficial goals such as the 25% participation in the HRH project. No data on these achievement measures was provided.

Through the success of these goals, the RiverSmart Homes team looks to create a short-term impact. Although there are currently ideas circulating on ways to evaluate the long-term impact of measures, the short-term impact is evident. In addition to helping reduce storm water runoff, participants get to beautify their properties and decrease risk of flooding in the home and District.

District of Columbia Sustainable Energy Utility

In 2011, the Vermont Energy Investment Corporation won the bid for DC's new efficiency utility, creating the DC Sustainable Energy Utility (DC SEU). The desire for a new energy efficiency group was in part driven by the efficiency programs at the time. Run by electric suppliers who lost business with the programs' successes, the programs were not creating the type of change the government and residents wanted.

Working under a performance-based contract with the District Department of the Environment, the DC SEU is evaluated and funded based on how well it performs each of its tasks². The organization is required to create a designated number of green job full time equivalents, spend at least 30% of funding on low-income projects, reduce electricity peak demand, spend a percentage of funding with Certified Business Enterprises, reduce energy consumption per capita, and increase energy generation per capita within DC. DC SEU uses the money designated for low-income projects to run five programs.

QUICK FACTS		
LOCATION	ANNUAL BUDGET	TYPE
DC	\$20,000,000 TOTAL; \$600,000 SERVES 2,800 LOW INCOME HOMES	

² For more information on DC SEU's budget breakdown, turn to Appendix C.

These five programs include:

- an energy efficiency program in single and multifamily low-income homes
- distribution of efficient light bulbs and information at food banks
- an apartment-based program where each unit has four inefficient products swapped out for efficient counterparts
- a low-income multifamily comprehensive program where every possible service is provided for a house
- a single family home program where up to \$6,000 can be used for retrofits.

So far, these programs have seen success. The DC SEU has reduced energy consumption and has earned increases to its budget for the past three years. In 2013, 2,800 low-income households were helped through DC SEU programs. However, implementing just the low-income programs in another location would be difficult given the intertwined nature of the organization and its staff. Instead of having separate staff for low-income programs, DC SEU separates staff mainly by the type of programs they run—residential or business.

If the staff necessary to run the low-income programs were isolated, there would be approximately 8-10 people on the team. Among others, this would include engineers, project and account managers, and outreach staff. While it would be optimal to run all five programs, two of the low-income programs could easily be implemented with even fewer employees and at a smaller cost. The food bank distribution and four item swap out could be executed with fewer people and significantly less funding because they are the least expensive and simplest programs.

Do It for DC!


Do It for DC! (DIFDC) is a program designed to motivate D.C. residents to reduce their carbon footprints while saving money on energy bills. The program offers personalized 90 day plans to help challenge participants achieve program goals. The program uses software developed by Going Green Today, and although the DIFDC challenge was only in March 2014, other similar initiatives using the Going Green Today software have seen success.

The software generates a customized plan for each participant by gathering information about current habits covering aspects of the participant's life in a comprehensive 20 minute survey. After the survey, the software provides the participant with a Lifestyle Savings Report that has tens to hundreds of changes the participant can make, detailing which changes will provide the greatest savings, as well as which changes are easy and free.

The DIFDC challenge has the goal of altering the lifestyles of 68,200 D.C. residents. At this point, the Going Green Today team hopes to have created a movement spreading the same goals and values within a defined area and population. Their reason for aiming for 68,200 participants, or 11% of the D.C. population, is to surpass the 10% participation tipping point, at which they believe the movement will have a momentum of its own and will no longer need the DIFDC challenge and promotion to gain influence. Because the program is fairly new, there is not yet information on its efficacy in resource-constrained communities.

Because the program is using software that has already been developed, there are fewer resources necessary for implementation. In early July 2014, there were four full-time staff members and numerous outreach volunteers helping DIFDC achieve its goal by signing residents up at large events and festivals and outside their favorite stores. DIFDC estimates that \$250,000 will be needed to achieve 11% participation. This cost is mitigated by donations and business sponsorship and will ultimately be paid for with a grant.

QUICK FACTS

LOCATION	ANNUAL BUDGET	TYPE
DC	~\$250,000 GOAL OF SERVING 68,200	

While many of the changes the software suggests are free lifestyle changes, such as cutting your shower time in half, some of the suggestions cost money. Although DIFDC does not provide money incentives to do these actions, they do point participants towards other organizations that provide incentives and rebates. Participants will be able to track their progress through a personal dashboard where they can view money and carbon saved personally and in their communities.

The DIFDC group considers their work especially meaningful because they are attempting to change behavior, a feat they believe has never before been done.

DC Habitat for Humanity Passive Townhomes

Typically known for building and selling homes families in need of affordable housing who are mortgage ready, DC’s chapter of Habitat for Humanity has joined other affiliates throughout the country in beginning a new project: constructing passive homes. Passive homes use a set of design and construction principles to minimize energy bills and the home’s carbon footprint. The Passive House standard is the most stringent building energy standard in the world. Buildings that meet the standard use 80 percent less energy than conventional equivalent buildings, and provide superior air quality and comfort.

Inspired by the home The New School built for the Department of Energy’s 2011 Solar Decathlon and subsequent partnership that helped make the “Empowerhouse” the first passive home in the city, DC Habitat created a plan to build six passive home townhouses in the city.

Planning of the homes began in 2012. Because passive homes take more time and money to build, the homes are still under construction. However, as more Habitat affiliates around the country begin

passive home projects, building these homes with increasing speed and ease in the future seems likely.

The biggest current obstacle to these expanded programs is the cost. Currently, Habitat affiliates with passive home projects rely on fundraising and sponsorship through corporate donors to help fund the 12-15% higher cost of the homes. Although there has been some talk of creating new “energy loans” that will allow the buyer to take out money for the extra features and make payments based on what their typical energy bill would be without the efficiency measures, Habitat’s rules forbid payments for the house to be greater than 30% of the gross monthly income. At this point, it does not appear that that limit could be sustained with the energy loans.



The Empowerhouse, designed and built by the New School and Stevens Institute of Technology team

However, even in the traditional homes it builds, DC Habitat encourages energy reductions. By initially installing energy efficient appliances in the home and directing the homeowner to efficiency programs in the city, Habitat encourages homeowners to use environmentally friendly products and services.

QUICK FACTS		
LOCATION	BUDGET	TYPE
DC	6 HOMES AT ~\$250,000 EACH	

Washington Area Fuel Fund

In 1983, Washington Gas and the Salvation Army partnered to create the Washington Area Fuel Fund (WAFF), a program that provides financial assistance to help low-income residents pay utility bills. Starting in January and running for as long as funding lasts (typically through April or May), WAFF helps residents with disconnect notices for their heating services meet payments for past due amounts.



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The program has averaged an \$860,000 budget since its inception, serving the region with 12 offices throughout D.C., Maryland, and Virginia. Washington Gas takes care of the fundraising: 85% of funding comes from Washington Gas customers who can opt to donate money or round up their gas bills to the nearest dollar amount, with the extra change donated to the WAFF. The Salvation Army then distributes the funds on behalf of low-income customers with disconnect notices, paying utility vendors who provide the main source of heat through their Heat Utility Assistance Program. In 2014, this money helped over 2,100 households.

In contrast to the Low Income Home Energy Assistance Program (LIHEAP), which provides residents with a credit for a designated dollar amount, WAFF does not provide credit for future bills, instead paying only for money already owed to the utilities.

It is used as a last resort, but can be used in conjunction with both LIHEAP regular and emergency assistance. For example, a resident may apply for LIHEAP regular assistance at the beginning of the winter, and then apply for emergency assistance upon receiving a disconnect notice. If, after this assistance, the resident receives another disconnect notice, s/he may turn to WAFF for further aid.

As with many of the services the Salvation Army offers, participants in WAFF are advised on how to cut down bills further to decrease reliance on this type of emergency aid. However, based on how familiar the individual Salvation Army worker is with other energy assistance programs, this advice can vary in breadth and depth.


QUICK FACTS		
LOCATION	ANNUAL BUDGET	TYPE
NATIONAL CAPITAL REGION	\$860,000 AVERAGE SERVES 2,100 PEOPLE	

Washington Gas supplements the monetary assistance by providing information on energy efficiency through bill inserts and their website. Washington Gas also has a Day of Weatherization where hundreds of volunteers help weatherize the homes of elderly and low-income homeowners. So far, this program has helped weatherize over 450 homes.

Case Studies: National

California Youth Energy Services

In 2000, Rising Sun Energy Center began running the California Youth Energy Services program (CYES). The program employs youth ages 15-22 as Energy Specialists, and program alumni as Leaders in Field Training (LIFT). During the first week of the seven week program, the young adults are trained to perform Green House Calls. The CYES employees then spend the six remaining weeks performing these free house calls throughout the area, providing water and energy usage evaluations, recommendations, and small retrofits to residents.

QUICK FACTS		
LOCATION	ANNUAL BUDGET	TYPE
CALIFORNIA	\$125,000-\$150,000 PER SITE	

The program has two main goals: to encourage environmentally positive change in residents, particularly “hard-to-reach” residents such as renters and non-English speakers, and to provide paid green jobs and job training to young adults. The CYES staff works towards the green jobs goal through its one week training for new employees and throughout subsequent experiences as Energy Specialists. The goal of reaching hard-to-reach residents is reached in a twofold manner. First, by

employing youth from the communities the program hopes to service, they break down the language barrier. Second, by providing a number of “screw-in” retrofits, the program can successfully implement changes in renters’ homes without permanently altering the unit.

Although Energy Specialists do not receive training on bigger retrofits, such as altering or replacing HVAC systems, they offer recommendations for these bigger projects. However, even without the larger changes, the smaller retrofits are wide-ranging and often optimal for renters. Some of the possible alterations include replacing light bulbs, measuring water flow of showers and faucets and exchanging inefficient aerators and faucets, insulating water heater pipes and attics, weather stripping, and implementing various other changes as needed.

Although the program originally had only one office, it now operates with 15 satellite offices throughout California. This summer, each office is staffed with two fulltime managers and 8-12 youth, and received \$125,000-\$150,000 in funding from utility rate payers and contributions from local governments.

In July 2014, Learning for Action completed a third-party evaluation of the program. The evaluation details numerous successes in providing youth with green job skills, but does not touch on the success of stimulating positive behavioral change in the audit recipients.

Community Housing Partners

Located primarily in Virginia, Community Housing Partners (CHP) works to build affordable, sustainable housing, provide training and educational opportunities, and foster community for low-income residents. As a developer and construction company, CHP is the exclusive provider for the Weatherization Assistance Program in Northern Virginia and is now in partnership with Fairfax County to build an EarthCraft standard 500-unit affordable housing complex.


CHP has been building everything to EarthCraft standards since 2009; however, the company itself has been around since 1980. It now has a presence throughout the southeast, employing over 400 people in six states.

“Everyone was very courteous and friendly [...] The instructions and materials exceeded my expectations. I really appreciate everyone and everything the weatherization group has done for me...
— B. Jenkins in Gordonsville, VA³

For many of its projects, CHP partners with several for-profit companies; CHP transfers the tax credits awarded to organizations creating affordable housing to the companies, and in return the companies provide low-cost financing for the projects. Three of the six developmental staff members guide each project, in addition to workers from the construction staff who

typically serve as project managers. For most deals, CHP is the prime contractor and they subcontract much of the work.

Once a project is completed, CHP evaluates its success in several different ways. First, a successful project is completed on time and within budget and has reliable tenants with minimal turnovers. Second, the buildings and their energy efficiency measures must perform well. Third, programs are executed to help residents with tasks from filing taxes and job hunting to caring for children with kids programs and camps.

QUICK FACTS		
LOCATION	ANNUAL BUDGET	TYPE
VA (PRIMARYLY)	VARIES	

Overall, Community Housing Partners boasts short, medium, and long term impacts on residents and the community (although no direct data of impacts was provided). By using high quality materials, CHP creates safe communities where people genuinely want to live while breaking down the notion that green living is only for the affluent.

Because of the flexibility of the program, expanding its scope beyond Virginia would be difficult. However, individual projects would be easier to execute due to less stringent guidelines.

³ This quote is an excerpt taken from a testimonial on CHP's website.

Findings and Recommendations

Part I: Interconnectedness

Although there are many programs throughout D.C. that help resource-constrained communities join the environmental movement, the biggest gap in these programs is their lack of cooperation and partnership. Few programs and organizations work with other initiatives in the city, though they often share similar goals. And, where partnerships do exist, they are often not as strong or successful as they were built to be.

The first step to increasing the success of sustainability programs in D.C. should be increasing the interconnectedness of the programs. The easiest way to do this may be to create an overarching organization responsible for directing residents to the programs that will best suit their needs—instead of contacting programs directly, residents could contact the main agency, tell the agency information about their living habits and the services they need, and be directed to several programs that best suit their needs. If this agency was created, individual organizations would not be held responsible for promoting the services of other organizations because the agency would promote all appropriate programs.

Because creating an entirely new agency would require significant time, energy, funding, and staff, a slightly easier approach to this idea would be to create the agency within a pre-existing organization such as DDOE or Social Services. If a new division was created within one of these—or

other similar—organizations, the hassle of creating an entirely new agency could be avoided but the new informative body could still be a success. One important note to make is that this new division would have to consist of independent staff. This means that even if the division is under DDOE (or any other organization), employees have and share knowledge about all environmental programs equally.

Regardless of the method, the next essential step for developing D.C. environmental programs is increasing communication and interdependence. This will help residents find the services they need with more ease while increasing participation rates in all programs throughout the region.

Part II: Youth

While there are a couple environmental programs for D.C. youth that put at-risk youth to work as environmental volunteers, there should be more programs that focus on green job training for young adults. Increasing the number of such programs would not only help more at-risk youth develop meaningful skills and contribute to a greener future, but it would also decrease the number of programs needed to aid future adults. In some ways, the youth programs are the most essential to the region because they provide the short term environmental impact, as well as the long term impact on individuals and how they interact with the natural world.

Because the CYES program (page 12) has seen success in each of its satellite offices, the program (or one very similar in nature) may be the best option for D.C. to implement. An energy efficiency-based program would nicely complement current programs, and these programs could work together to form an even larger youth environmental workforce. Additionally, because the CYES program needs only a few full time staff members and eight to ten volunteers, it would be an easy program to start up and run on a trial basis.

Part III: Proactive vs. Reactionary Programs

A more difficult, but positive change the District should consider for the future is the shift from reactionary programs to proactive ones. This would mean gradually changing services from solely providing monetary assistance to help meet payments

to providing both monetary assistance and educational assistance to lower future bills. One example of this is transitioning programs such as LIHEAP and WAFF to programs like Habitat's Passive Homes, RiverSmart Homes and those at DC SEU. Although this transition would be tough because the latter programs do not often have immediate monetary benefits and there are often limits on how much funding for a specific program can be shifted outside the main task of the program, the change would help prioritize empowering residents to decrease the long term burden of high energy costs over the short term benefits many current programs offer.

One way to transition these programs would be to slowly decrease the amount of money used to directly pay bills while increasing the amount spent on efficiency measures. For example, a program could start by distributing energy efficient light bulbs and faucets while meeting 95% of energy bill costs. As consumption consequently decreases, the organization would have to spend less money to meet demands of bill paying, and could increase its services to include distribution of larger energy efficient appliances or other retrofits (when possible with limits in funding and how it's spent). This change may originally raise some questions and create upset among residents reliant on programs distributing 100% of the funding currently used to create short term fixes. However, as residents acclimate to the new adjustments and adopt efficiency measures, they will hopefully come to accept the programs and even appreciate the changes they were forced to adopt.

Part IV: Education

Similar to the classes CHP (page 15) offers, programs in the region should include an educational component for participants. Currently, though many programs provide information on the services they offer, few dispense general information about living a greener, cheaper life. If this information was made not only available, but unavoidable, by requiring aid recipients to take classes while receiving assistance, residents in need of these programs' services may find a way to rise out of need. This would nicely complement the shift of retroactive programs to proactive ones, creating an environment where aid recipients have both the ability and the requirement to learn to live more environmentally healthy, less expensive lives. Many out-of-state programs have seen great success in offering inexpensive or free classes on sustainable homeownership, and D.C. programs should create similar classes to take the green movement out of the hands of program administrators and place it in the hands of residents.

Part V: Expanding Programs

Although each of the previous recommendations details how district programs could improve or grow, many of the programs in this report have already seen great success and could best benefit the greatest number of people by expanding to other regions. A couple of these programs include the Arcadia Mobile Market, the Habitat for Humanity Passive Townhomes, and the Do It for D.C.! challenge. Each of these programs would need to be expanded in a different way, but they all contain at

least one feature that makes expansion seem not only possible, but fairly easy.

Because the Arcadia Mobile Market has a very detailed mobile market how-to guide and has already consulted with several other municipalities interested in creating their own mobile markets, expansion of this program beyond DC would require less trial and error and would consequently be more likely to see success sooner.

Although the passive townhomes and DIFDC challenge do not necessarily have the same type of guides to ease expansion, they each have an advantage of their own: national programs and resources. Because DIFDC is a branch off the Going Green Today initiative, a website used throughout the country to make going green easier, the challenge and its software are not unique to DC. This means it would be easy to create similar challenges throughout the country without having to design a new software or program.

Similarly, because Habitat for Humanity is already a national organization, it would be easier to implement a successful program from one region throughout the country. Although it would still require significant resources and know-how to expand the passive townhomes program, having pre-established chapters and employees would help expedite the process and make future program implementation much simpler.

Appendix A: Evaluation Questions

Each program's contact was asked a list of questions either identical or very similar to the following:⁴

1. The following is a brief description of what I understood the program to be from its website. Please make any corrections or additions as you see fit.

a. Description:⁵

2. What year did this program start?

3. Who is the target audience for your program?

4. What is the budget for your program? Who provides the money?

5. How many people are needed to execute your program?

6. How do you measure success of your program? (i.e. number of customers, money saved per household, number of households served, etc.)

a. If possible, please provide data on the aspect you measure within the timeframe you typically record it in

7. Does your program have a community engagement or education component? I found the following aspects of the program on the website; do these aspects accurately encompass community engagement and education components of your program?

⁴ Questions were added, removed, or changed according to the program specifics. In particular, the list of measures of success following question six was altered based on the type of program. Question seven was also altered fairly frequently because educational components of programs were often either evident from preliminary research or clearly not included in a program.

⁵ Before sending out these questions or conducting the interview, a brief description of the program was included here to indicate preliminary research and help best target following questions. Similarly, educational aspects found during preliminary research were listed for question seven.

a. Aspects:

8. Does your program have a short term (less than one year), medium term (one to three years), or long term (over three years) impact on homeowners or communities?

9. Have you had any third-party evaluations of your organization's services?

a. If so, can you please send me a copy or a link to the evaluation?⁶

This series of questions was intended to target a number of specific qualities: the starting date of the program indicates whether the program has had long-standing success or is still in years of trial and error; the target audience helped narrow down the program list to those with programs targeting or appealing to low-income residents; the budget and manpower needed to execute the program indicate how easily the program could be implemented elsewhere; data on the success of the program (though not always obtained) indicates how effective the program has been thus far; information on education components and impacts were used as supplemental information to get a fuller picture of the niche the program occupies.

There were two main difficulties in conducting the interviews. First, it was sometimes difficult to get in touch with the program representative who could best answer the questions for me. Second, many programs (especially national programs) are nuanced around local needs so the general questions did not always withdraw the crux of information.

⁶ When available, third-party evaluations were beneficial as they provided an unbiased evaluation of the services a program provides.

Appendix B: Arcadia Mobile Market Finances

Arcadia Mobile Market: General Operating 2012			
Revenue		Expenses	
Market Income		Market	
Sales	\$34,338.00	Cost of Goods Sold	\$32,990.00
Incentive Programs	\$9,140.00	Supplies (flyers, bags, etc.)	\$1,000.00
Total:	\$43,478.00	Total:	\$33,990.00
Other Income		Vehicle	
Grants	\$50,000.00	Fuel	\$3,500.00
Corporate Donations	\$11,500.00	Maintenance	\$3,000.00
Special Event Fees	\$500.00	Insurance	\$1,440.00
Total:	\$62,000.00	Tickets/Towing	\$500.00
Total Revenue:	\$105,478.00	Property Tax	\$175.00
		Safety Inspection	\$100.00
		Total:	\$8,715.00
		Business	
		Permits/Licenses	\$690.00
		POS Merchant Fees	\$650.00
		Bank Fees	\$350.00
		Total:	\$1,690.00
		Labor	
		F/T Manager (Year-Round)	\$40,000.00
		P/T Operator (Seasonal)	\$10,000.00
		Benefits	\$5,000.00
		Total:	\$55,000.00
		Total Expenses:	\$99,395.00

Arcadia's Mobile Market: General Operating 2013			
Revenue		Expenses	
Market Income		Market	
Sales	\$55,058.90	Cost of Goods Sold	\$49,000.00
Incentive Programs	\$11,238.16	Supplies (flyers, bags, etc.)	\$2,791.00
Restaurant Sales	\$4,400	Total:	\$51,791.00
Total:	\$70,697.06	Vehicle	
Other Income		Fuel	\$2,689.00
Corporate Donations	\$47,000	Maintenance	\$5,459.00
Grants	\$5,000	Insurance	\$1,440.00
Total:	\$52,000	Property Tax	\$175.00
Total Revenue:	\$122,697.06	Safety Inspection	\$100.00
		Total:	\$9,863.00
		Business	
		Permits/Licenses	\$1,033.00
		POS Merchant Fees	\$1,800.00
		Bank Fees	\$350.00
		Total:	\$3,183.00
		Labor	
		F/T Manager (Year-Round)	\$40,000.00
		F/T Operator (Seasonal)	\$15,000.00
		Benefits and Taxes	\$2,841.00
		Total:	\$57,841.00
		Total Expenses:	\$122,678.00

Charts from annual report and "Mobile Market How To" guide. Information from 2014 not yet released.

Appendix C: DC SEU Budget Breakdown



\$18,000,000

30%

At least 30% of funding (~\$6,000,000) must be spent on low-income projects

Appendix D: Sources for Additional Information

For more information on each of the programs, please visit their websites listed below

Arcadia Center for Sustainable Food & Agriculture: Mobile Market

Visit <http://arcadiafood.org/programs/mobile-market>

Weatherization Assistance Program and Low Income Home Energy Assistance Program

Visit <http://ddoe.dc.gov/service/energy-assistance-and-weatherization>

RiverSmart Homes

Visit <http://ddoe.dc.gov/riversmarthomes>

DC Sustainable Energy Utility

Visit <https://www.dcseu.com/>

Do It for DC!

Visit <http://www.goinggreentoday.com/dc>

Habitat for Humanity Passive Townhomes

Visit <http://www.dchabitat.org/about-us/green-building/passive-townhomes/>

Washington Area Fuel Fund

Visit <http://washingtonareafuelfund.org/>

California Youth Energy Services

Visit <http://www.risingsunenergy.org/content/cyes.html>

Community Housing Partners

Visit <https://www.communityhousingpartners.org/>

