

ENTERPRISE GREEN COMMUNITIES

DCRA Green Building Symposium & Expo
Gallaudet University
September 24, 2013



James W. Rouse

Our founder + inspiration



A young girl with long dark hair, wearing a green patterned dress, stands in a garden. She is looking down at a plant. In the background, there is a house with light-colored siding and a wooden deck. The garden contains several tall green plants, likely corn. A green text box is overlaid on the right side of the image.

Our focus: find new, holistic solutions for healthy, sustainable homes in diverse communities



Policy

Resources

Technical Assistance

Best Practices, Knowledge Share

Green Communities Certification

**HELPING YOU
BUILD A
GREEN
COMMUNITY**



It all starts here:

Enterprise

Green Communities

Criteria

Green Communities Criteria



Green Communities Criteria

The reason we talk about green building...



**Validating
your efforts:**

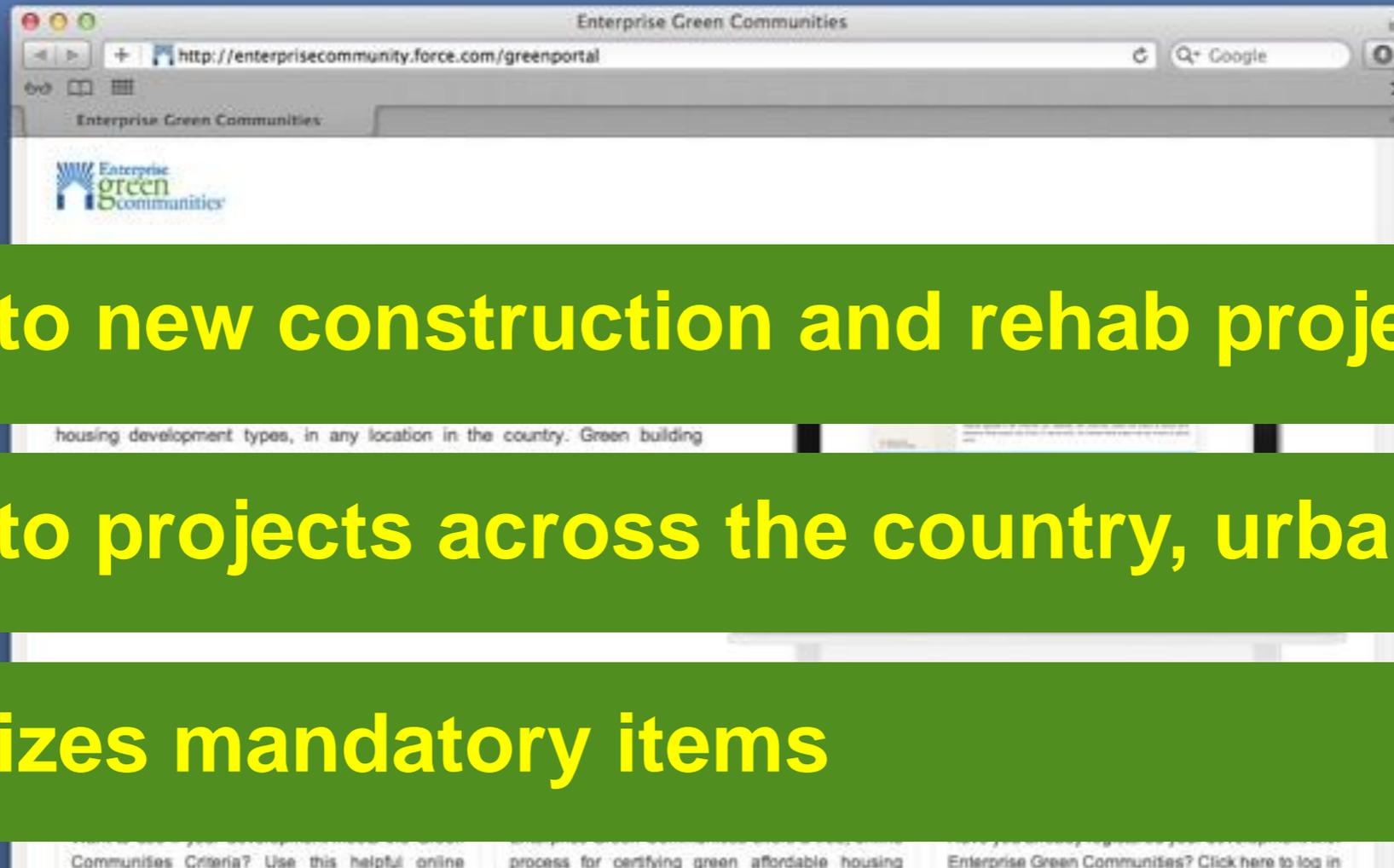
Enterprise

Green Communities

Certification

Certification

We make it easy!



Applies to new construction and rehab projects

Applies to projects across the country, urban & rural

Emphasizes mandatory items

Streamlined two-step certification system

Aligned with LEED for Homes

Green Communities Certification

As of August 2013

56,986 Affordable Units Registered

816 Projects Registered

354 Projects Pre-build Approved

149 Projects Postbuild Approved

Where are
we to date in
WASHINGTON, DC ?

Green Communities Certification

Washington, DC

377

Affordable Units Certified in 6 projects

1,150

Affordable Units Registered in 19 projects

Since 2004, Green Communities has given **20 grants**

totaling **over \$510,000** to projects within DC, impacting

1,183 units of green, affordable housing.

Resources + Tools

Resources + Tools



Financing

- Charrette Grants
- Sustainability Training Grants
- Offset Fund
- Financing Options

Tools & Research

- Browse Tools
- Carbon Calculator
- Charrette Toolkit
- Multifamily Retrofit
- Operations & Maintenance
- Policy Support
- Research & Evaluation
- Resident Engagement
- Weatherization Program

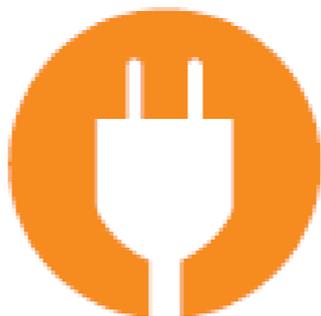
Training & Technical Assistance

- Bank of America Best Practices Series
- Green NSP
- Technical Assistance Providers Database
- Asset Management
- Green Live Online Events

Forums & Blogs

- Discussion Forum
- Neighborhood Stabilization Program (NSP) Blog
- Enterprise Blog: @the horizon

Multifamily Retrofit Toolkit



Resources + Tools

Toolkit Detail

TABLE OF CONTENTS

THE STEP-BY-STEP RETROFIT PROCESS



1 Review Portfolio



2 Secure Funding



3 Select Property



4 Select Audit Protocol



5 Select Auditor and Conduct Audit



**6 Determine Final Scope of Work and
Select Contractor to Complete Renovation**



7 Conduct Quality Assurance and Verification (QA&V)



8 Monitor Utility Use



9 Management, Operations and Maintenance

Resources + Tools

Toolkit Detail

Portfolio Approach - Assists you in developing an action plan to increase the efficiency of your portfolio through selective application of retrofits and related tools

Project Approach - Assists you in taking one project through a streamlined, cost effective, efficient retrofit process

Midway through process and/or near completion - Use as a toolkit at any point during the retrofit process in order to make smart and cost-effective decisions

The 9 Stages of the Retrofit Process with Resources

The resources provided here guide you through the stages of upgrading your portfolio or property. Each stage has specific directions with tools to assist you.

Location of the Toolkit

The documents, attachments and links referred to in this document can be found at:

www.enterprisecommunity.org/retrofittoolkit

CONTACT US

David Bowers, Vice President & Market Leader, Mid-Atlantic

dbowers@enterprisecommunity.org

Enterprise Green Communities

GreenCommunities@enterprisecommunity.org

www.enterprisecommunity.org





Sustainable, High-Performance, Affordable Communities

Who We Are

Urban Green is a developer of green, high-performance, affordable housing and renewable energy systems within urban communities.

Our Innovative Approach

- ❖ Integrated approach to housing, energy and health
- ❖ We make being green...bankable
- ❖ Long-term view of asset value and ROI
- ❖ Reduce utility, maintenance/operations expenses
- ❖ Reduce carbon emissions
- ❖ Improve health/safety features
- ❖ Improve the urban habitat



Green Affordable Housing

We Make It Seamless

- 
- A green pencil with a wooden body and a green eraser is positioned diagonally across the top left of the image. The pencil's tip is pointing towards a list of services. The background is a blurred architectural blueprint with various lines and text, including the word 'azienda' and 'residuo'.
- Preservation Deals
 - Mixed-Income
 - New Construction
 - Acquis./Rehab
 - LIHTC/Bonds
 - Rental/Ownership
 - High-Performance
 - Healthy Housing

Urban Green's Energy Services



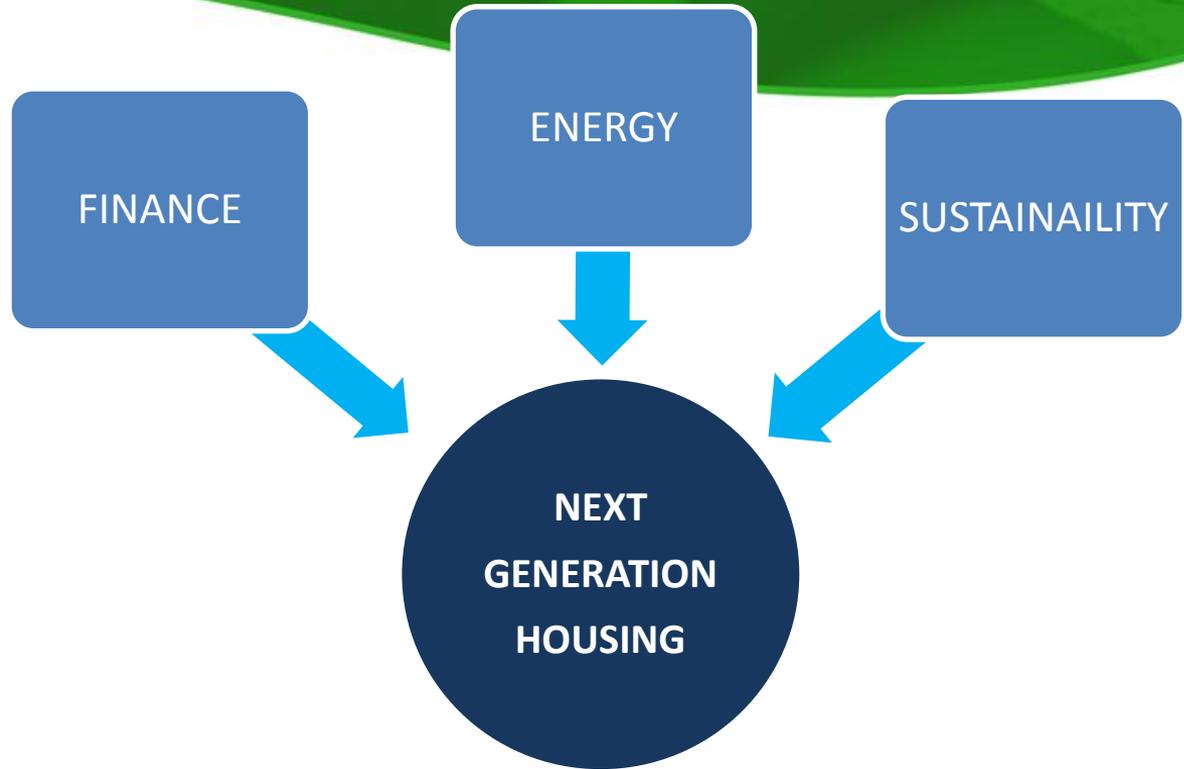
- Renewable Energy Developer
(solar, geothermal, fuel cell, and more)
- 100% Financing
- Energy Options Assessments
- Power Purchase Agreements
- Energy Audit & Performance Modeling
- Sustainable Design Coordination
- Staff/Resident Green Training
- Coordination of Energy Incentives
- Micro-Grid Energy Systems
- Energy Co-Ops

Market Transformation

Next Generation Housing is merging services:

- Finance
- Energy
- Sustainability.

Separate service providers no longer practical or cost-effective.



The Problem

- Affordable housing needs to manage long-term utility cost.
- Grid reliance is too high; Energy security is too low.
- Utility rates climbing + rents stabilizing = lower NOI/cashflow
- Public subsidy for housing/energy is limited
- Housing developers trend utilities incorrectly (3% too low)
- Housing for seniors increasingly requires energy security
- Limited market for small energy deals (below 1mW)

Why Green Affordable Housing

-  urban populations =  demand for energy.
- As urban population grows, the % of low-income families grows at a faster rate.
- Cost of water, electricity and gas up 5%+ per year.
- Hard for families to pay higher energy bills.
- Result =  disposable income and  displacement.

Utility Cost Going Up

- Electric power bills are likely to rise across the U.S. as utilities spend billions to replace aging infrastructure, add costly renewable resources and install pollution control devices to clean up older power plants (Reuters, March 2013).
- Pepco has asked the DC PSC to authorize a \$52.1 million increase in base distribution rates to help pay for the reliability investments it has made. A \$5.89 (6.23%) increase per month for a typical District residential customer (Pepco Holdings, March 2013).

Tobias Henson Apts. Green Retrofit



- Affordable Housing
- Washington, DC-Southeast
- 64 units with Sect 8
- Tenants @ 30% - 50% AMI
- Aged systems
- Inefficient appliances
- Units in decent shape
- Owner could not afford improvements

↑ Energy Savings = ↑ Loan



- Install 50kW solar PV and 5kW fuel cell w/ 15yr PPA
- EEMs - lighting, water, hot water, HVAC + appliances
- Annual savings \$28,551
- Improved NOI by 12%
- Previous loan = \$3.12M
- New loan = \$3.49M
- Net loan increase = \$374K

Tobias Henson Financing

TOTAL USES		\$5,110,000
First Mortgage	(higher loan proceeds)	\$3,495,000
Soft 2 nd Mortgage		\$1,200,000
FHLB-AHP Grant		\$ 300,000
DCSEU Energy Grant		\$ 25,000
Defer Dev. Fee		\$ 90,000
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TOTAL SOURCES		\$5,110,000

Urban Green, LLC Contact Info

Mark E. James, President

Urban Green, LLC

1717 Pennsylvania Avenue, NW

Suite 1025

Washington, DC 20006

Ph: (202) 559-9068

Email: mjames@urbangreenllc.com



Public Housing Authorities as Green Building Innovators

September 24, 2013

2:00 PM

Gallaudet University

DISTRICT OF COLUMBIA HOUSING AUTHORITY

Adrienne Todman, Executive Director

OFFICE OF CAPITAL PROGRAMS

Stephen M. Green, Director

R. Denise Everson



Why should you care about Public Housing Authorities?

- Over 1.1 mil public housing units housing more than 2.1 mil people;
- \$6.4 bil to operate, \$1.5 bil in direct utility payments in 2008;
- \$421 mil in utility allowances;
- Public Housing is less efficient than any other type of housing



DC Housing Authority

MISSION

To provide quality affordable housing to
extremely low- through moderate-
income households,

Foster sustainable communities,

Cultivate opportunities for residents to
improve their lives.



DCHA's Green Focus

What have we done?

- Energy Capital Improvement Program (ECIP)
- Building Environmental Automation Monitoring System (BEAMS)
- Building Product Standardization



DCHA's ECIP: A Model for Federal Policy



ECIP

- DCHA was the first PHA in the nation to self-perform as its own Energy Services Company (ESCO)
- ECIP is a capital projects program designed to financially leverage energy and water savings associated with the replacement of aging equipment and infrastructure.
- Using established HUD subsidy incentives, DCHA funded the program from energy and water savings.



ECIP

- \$21 mil Retrofit Cost = \$3.5 mil/year saved
- 31 Properties
- 5,444 units
- ≈ 28,000 residents affected
- Boilers, Chillers, Lighting, Fan Coil Unit Replacement, Hot Water Systems, Piping & Domestic Water Systems





ECIP Goals

ELECTRICITY SAVING

10% Goal

1.5% Actual

NATURAL GAS SAVINGS

20% Goal

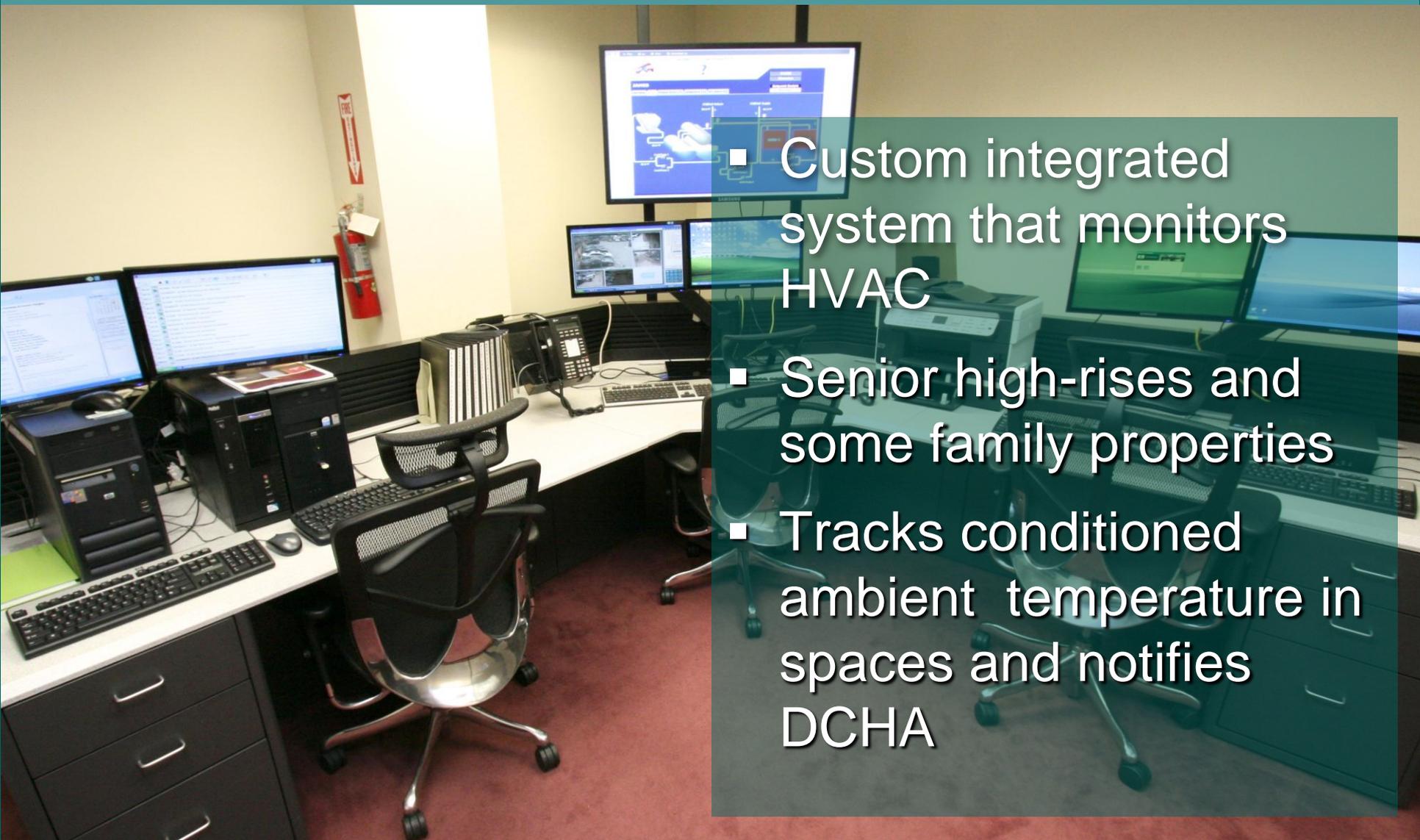
17.5% Actual

WATER SAVINGS

23% Goal

56% Actual

Building Environmental Automation Monitoring System (BEAMS)



- Custom integrated system that monitors HVAC
- Senior high-rises and some family properties
- Tracks conditioned ambient temperature in spaces and notifies DCHA

Product Standardization

DISTRICT OF COLUMBIA HOUSING AUTHORITY
OFFICE OF CAPITAL PROGRAMS

A Guide to **BUILDING PRODUCT STANDARDS**

- 90-page soup-to-nuts guide
- For use by contractors, designers, operations & maintenance staff
- Photos & specifications
- Green building designations



2012
Edition

Benefits of Innovation

- Improved health outcomes for residents
- Utility savings to DCHA
- More marketable properties
- Increased product life & viability
- Social equity



Innovation in Practice

- Solar PV & Solar Thermal
- Green Roofs
- Cool Roofs
- Geothermal
- Sustainable finishes
- Landscaping: Rain barrels, rain gardens, bayscaping, shade trees



Regency House

Traditional Public Housing (Senior High Rise)



Sheridan Station

Federal HOPE VI



St. Martin

Low Income Housing Tax Credit (LIHTC)



What are we doing?

- Green Operation & Maintenance Manual
- Feasibility Study at Langston Terrace
- Expanding LEED projects
- Youth programs and Sustainability education



Contact:

R. Denise Everson, LEED AP

Office of Capital Programs

District of Columbia Housing Authority

(202) 535-2566

REverson@dchousing.org

