



The Intersection of Data & Finance

Northeast Sustainable Energy Conference

March 10, 2011

Passion to Perform

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Learning Objectives

Draw lessons from Community Development sector in terms of addressing market failures

Review barriers to scaling up energy retrofit transactions

Introduce a project underway that is attempting to use data to drive financing decisions

Implications for financing and bringing retrofits to scale

A Case Study in Market Failure—South Bronx 1970s



The South Bronx Today



Source: NYC Housing Development Corporation Annual Report (2009)

Sam Marks
NESEA Conference / March 10, 2011

What Went Wrong?



THE PERFECT STORM:

1960s – 1970s

Highway construction

Urban Renewal policies

Rapid suburbanization

Segregation & “white flight”

Demographic and de-industrialization factors

Disinvestment

1970s fiscal crisis & “planned shrinkage”

What Turned It Around?



INFRASTRUCTURE FOR TRANSCATIONS: 1980s - present

Community Reinvestment Act

Local advocacy and organizing

Local and state policy

Low Income Housing Tax Credit (LIHTC)

Specialized intermediaries
(Community Development Financial Institutions
& LIHTC syndicators)



Community Development Finance Group / Deutsche Bank Americas Foundation



CSR / SOCIAL INVESTMENT

Community Reinvestment Act

\$480 Million Portfolio of Loans &
Investments

Grants and Philanthropic Loans

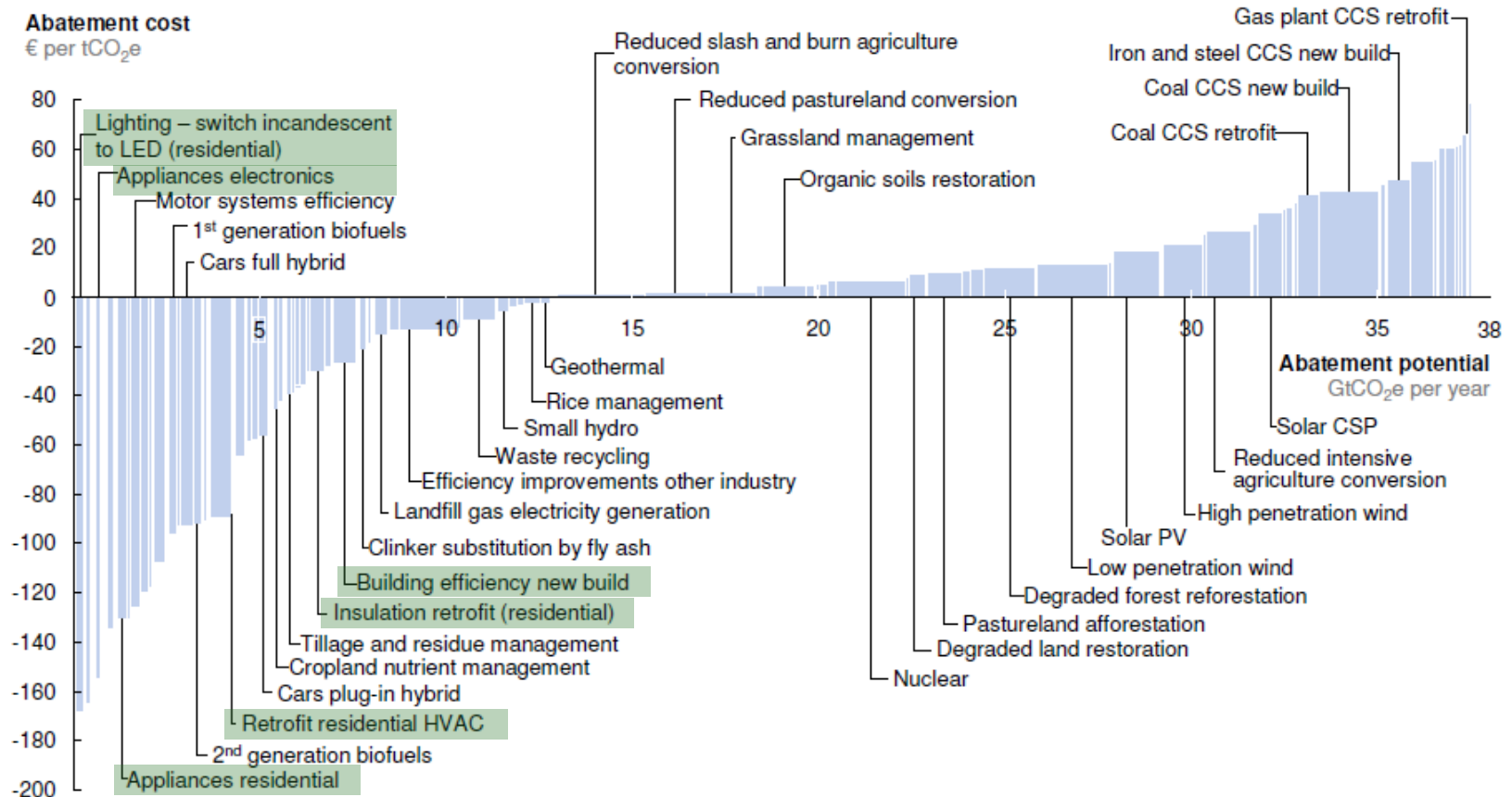
US (NYC)—Affordable Housing &
Community Economic Development,
Education, Arts & Culture

International—Investment Bank for
Microfinance



McKinsey Cost Curve and Retrofit Interventions

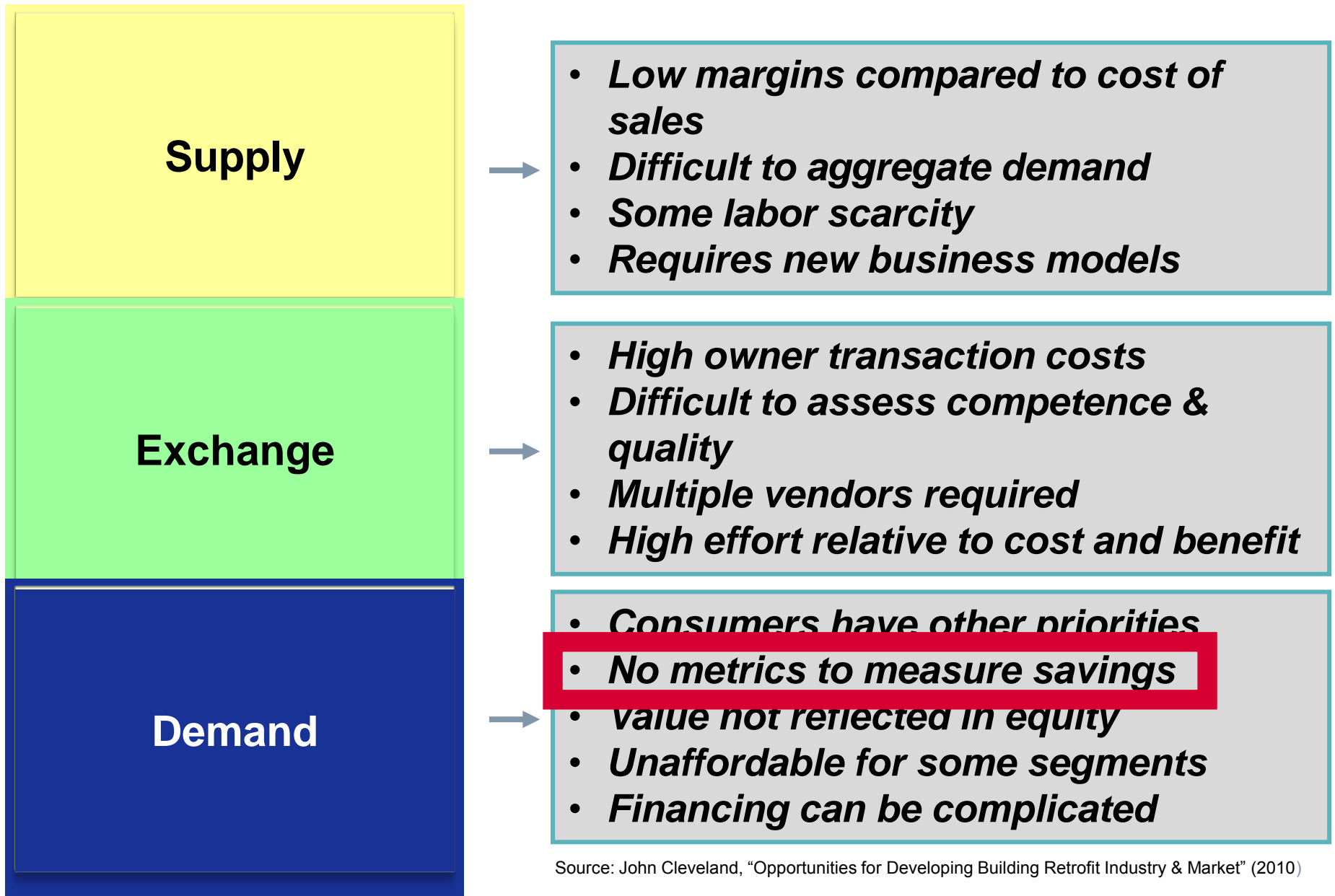
V2.1 Global GHG abatement cost curve beyond BAU – 2030



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €80 per tCO₂e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.

Source: Global GHG Abatement Cost Curve v2.1

Barriers to Robust Retrofit Transaction Infrastructure



DB-Living Cities Building Energy Efficiency Report

Stakeholder Working Group—NYC Multifamily

City / State Agencies

NYC HPD
NYC HDC
NYC EDC
NYC OLPTS
NYSERDA
NYS DHCR

Utilities

Con Ed
National Grid

Community Development Intermediaries

Enterprise Community Partners
Community Preservation Corp
Low Income Investment Fund
LISC
Seedco

NGOs

Living Cities
Partnership for NYC
NRDC

DB-Living Cities Building Energy Efficiency Report Stakeholder Feedback

Barriers

1. A paucity of data concerning the efficacy of energy retrofits
2. Lack of interaction between the worlds of building science & finance

Response

Build a set of reliable data to:

1. Change *underwriters' practices* to incorporate energy efficiency
2. Advance & improve the effectiveness of *public policy & programs*

DB-Living Cities Building Energy Efficiency Report Interdisciplinary Consultant Team



Steven Winter Associates, Inc.
Building Systems Consultants



HR&A
Analyze. Advise. Act.

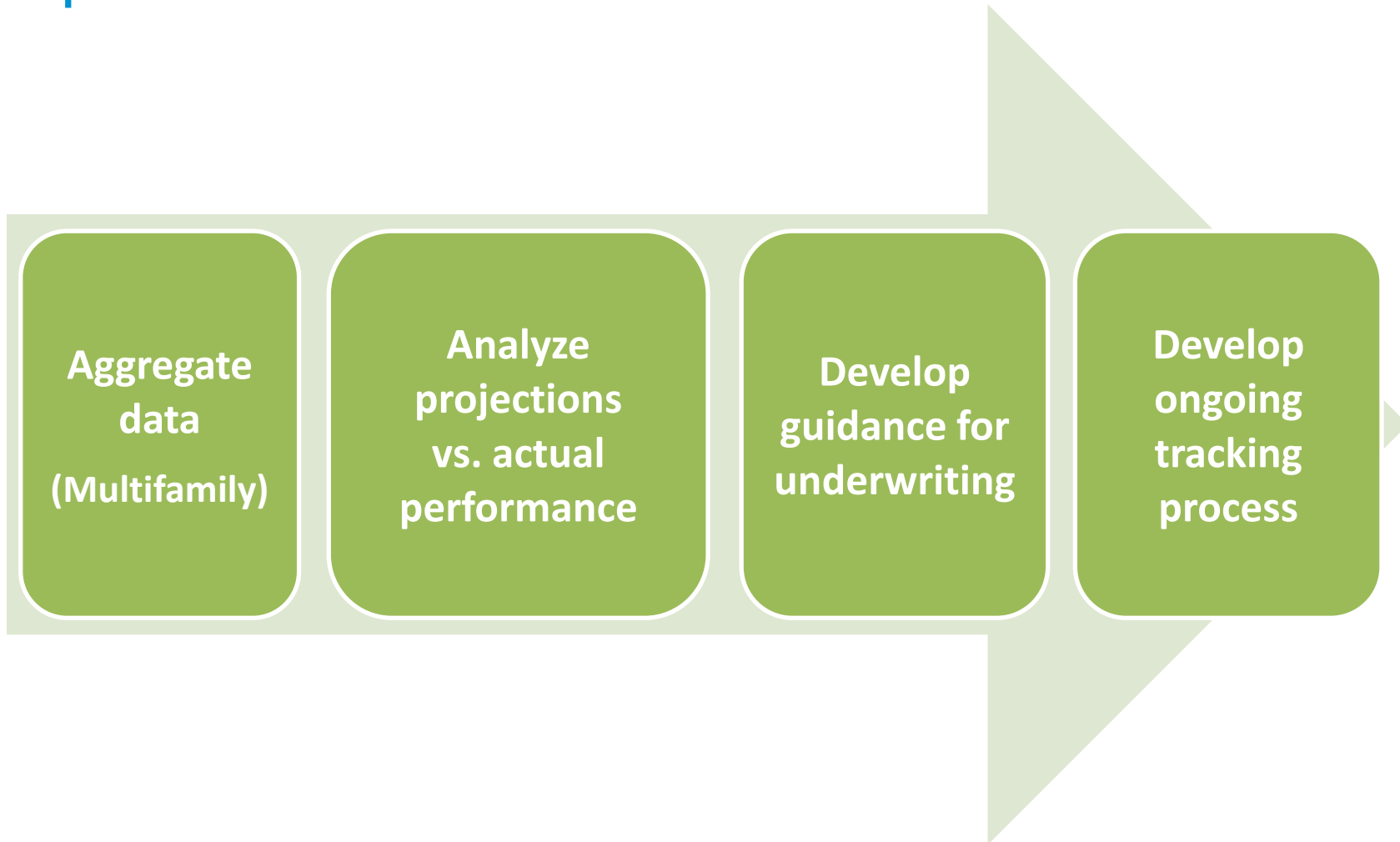
Building Science
Energy Audits
Database Design

Real Estate
Public Policy

Support from:
Michael Blasnick & Associates
Northern Manhattan Improvement Corporation

DB-Living Cities Building Energy Efficiency Report

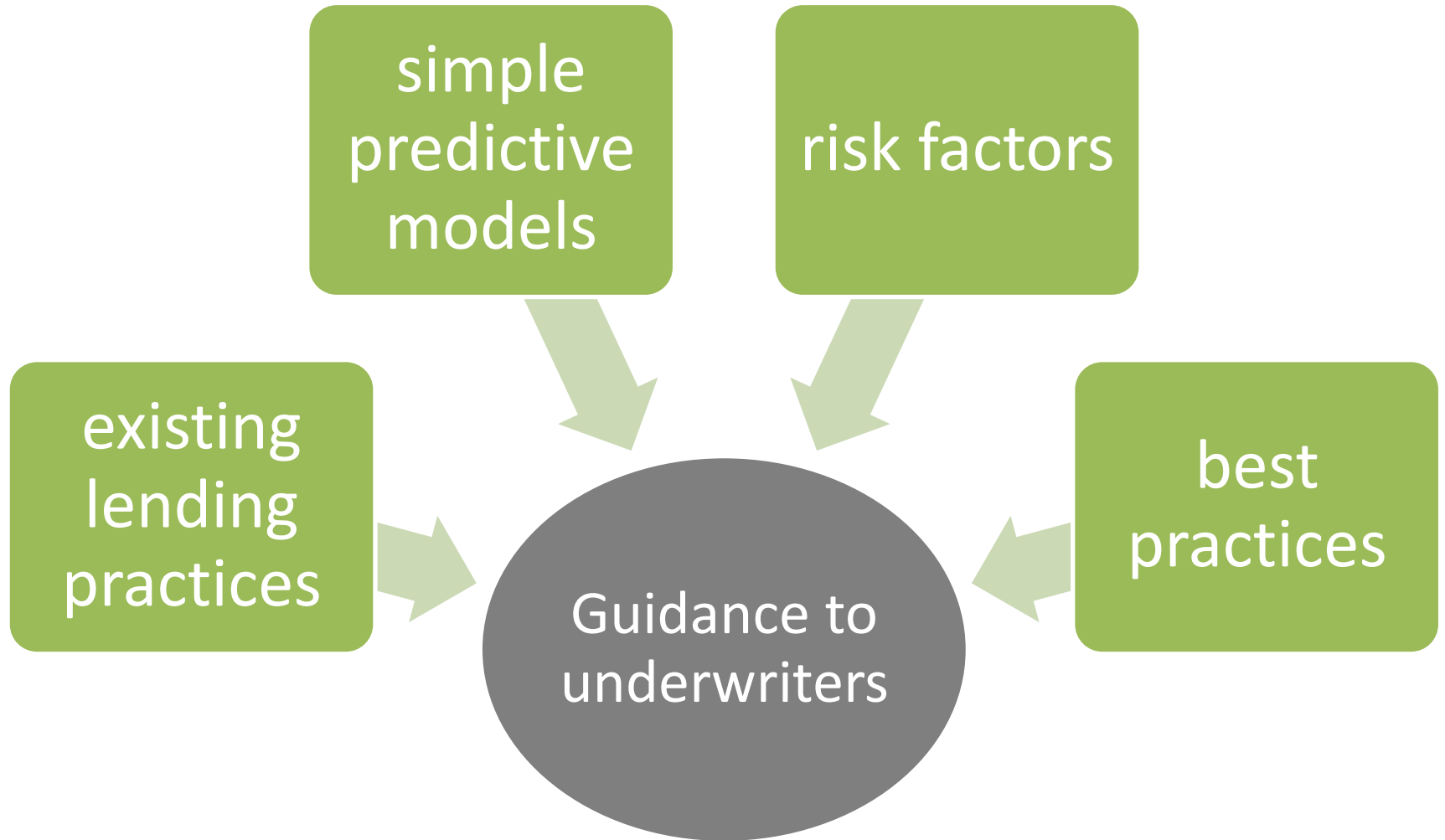
Scope of Work



Source: Steven Winter Associates and HR&A Advisors

DB-Living Cities Building Energy Efficiency Report

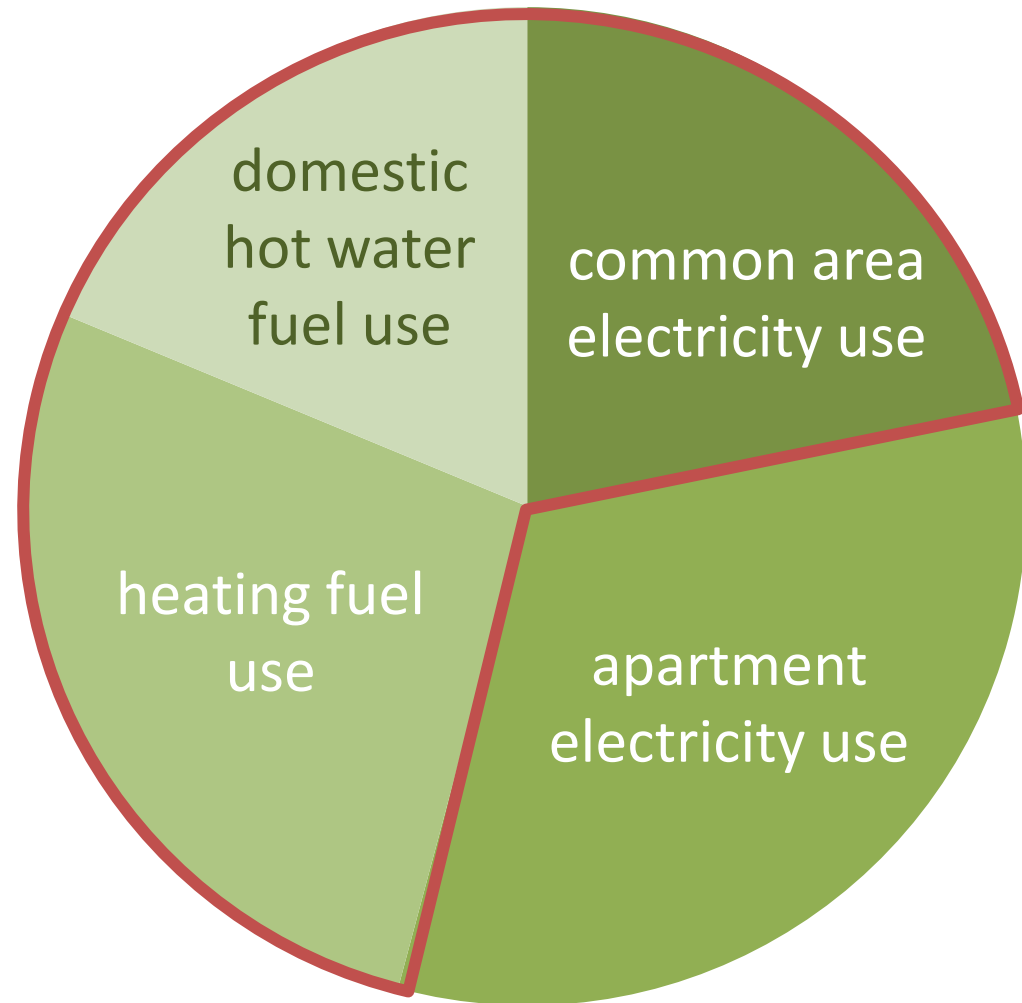
Project Outcomes



Source: Steven Winter Associates and HR&A Advisors

DB-Living Cities Building Energy Efficiency Report

1. Determine impacts on multifamily end use wedges with focus on those that drive decision-making by building owners



Source: Steven Winter Associates and HR&A Advisors

DB-Living Cities Building Energy Efficiency Report

1. Determine impacts on end use wedges

2. Investigate outliers

1. **Identify** under- & over-performers
2. Analyze **project files** to determine potential causes
3. In some cases, work with **building management** to identify causes

Source: Steven Winter Associates and HR&A Advisors

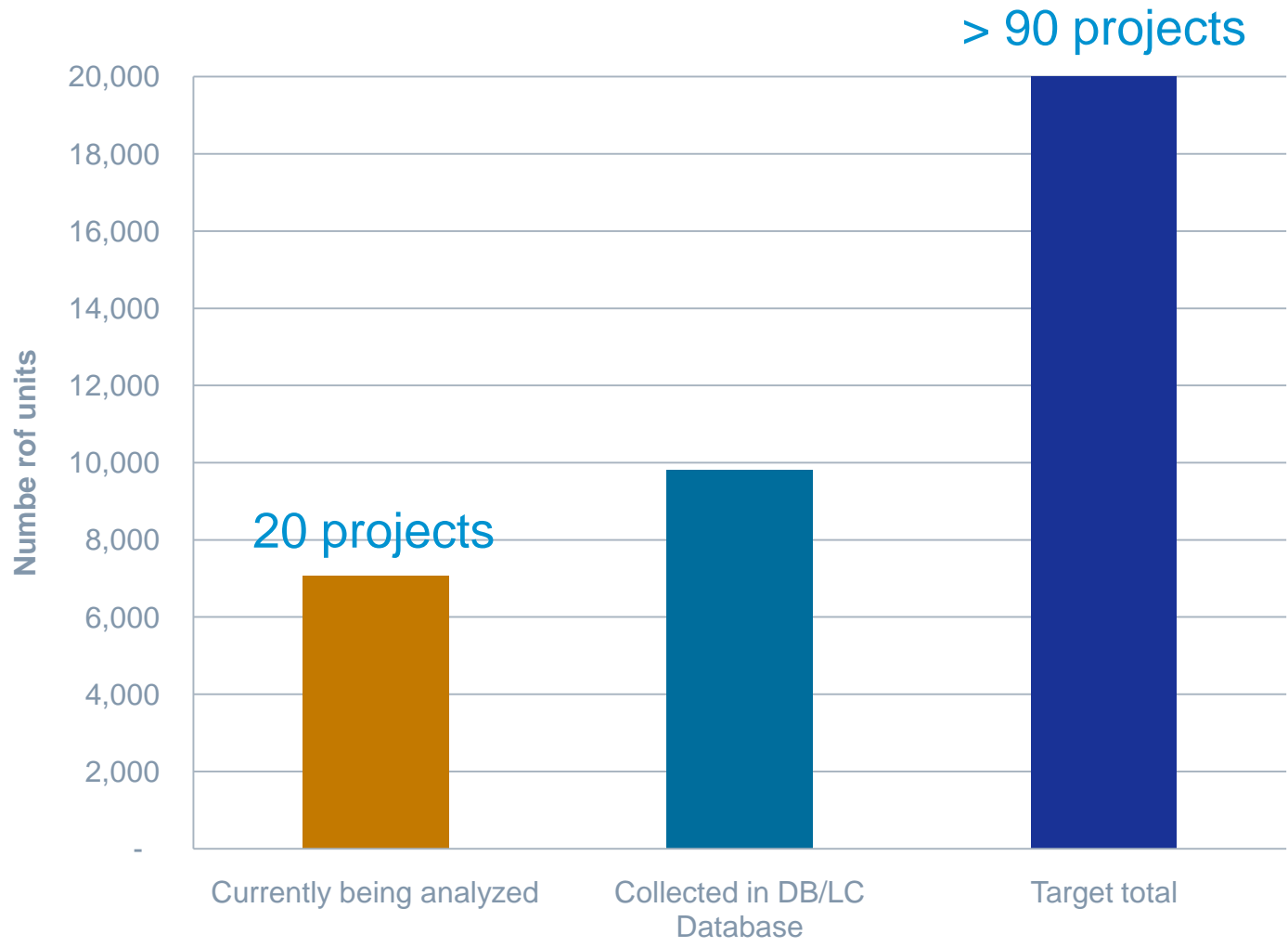
DB-Living Cities Building Energy Efficiency Report

1. Determine impacts on end use wedges
2. Investigate outliers
3. Develop risk factors & simple predictive models

1. Assess impacts of **key variables**:
 - Building factors
 - Human factors
2. Develop **frequency distribution** of major measure for high vs. low savers
3. Define role of **risk factors & best practices**

Source: Steven Winter Associates and HR&A Advisors

DB-Living Cities Building Energy Efficiency Report Progress



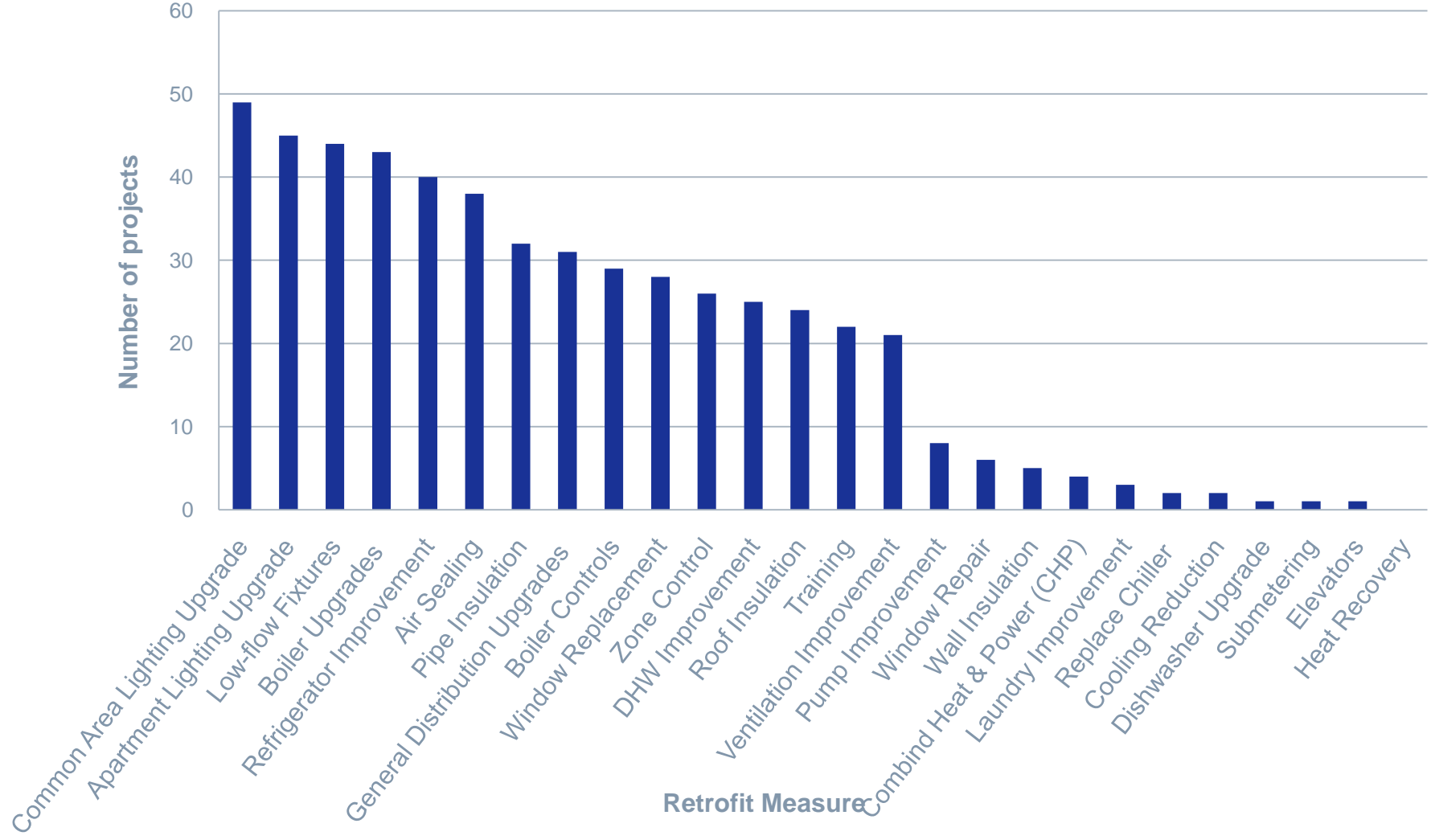
Source: Steven Winter Associates and HR&A Advisors

Data sources include: NYSERDA Assisted Multifamily Program (AMP), NYSERDA Multifamily Performance Program (MPP) and Weatherization Assistance Program (WAP).

DB-Living Cities Building Energy Efficiency Report

Preliminary Findings

Frequency of Measures Implemented



DB-Living Cities Building Energy Efficiency Report

Preliminary Findings (20 buildings)

1. Buildings analyzed reduced fuel usage by average of 24%
2. Pre-retrofit fuel use per apartment comparable to average NYS single family home (indicates overheating)
3. Incorporation of energy efficiency into underwriting is at an early stage of adoption.

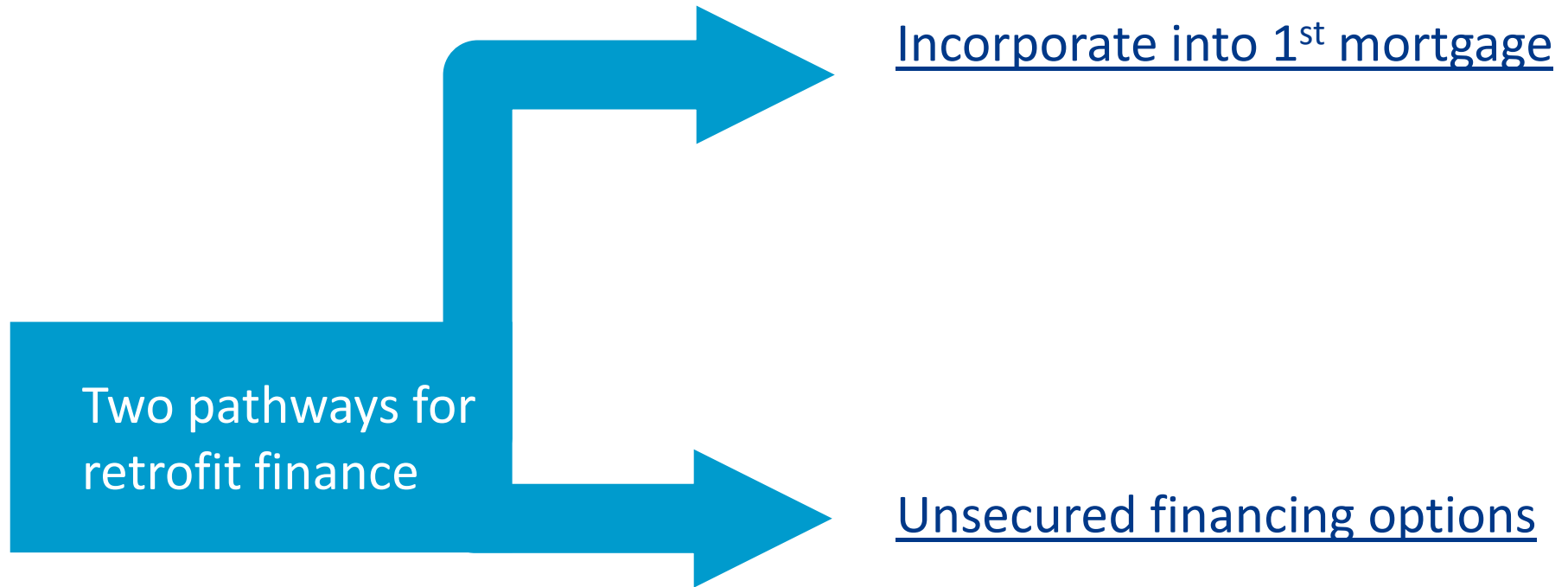
DB-Living Cities Building Energy Efficiency Report Progress

→ October 2011

	month	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	
PART A Energy Performance Analysis																		
1	Develop study methodology & create database	█	█	█														
2	Collect data & populate database			█	█	█	█	█	█	█	█	█	█	█	█			
3	Analyze existing data set & provide report								█	█	█	█					█	█
4	Design data reporting system for ongoing data collection											█	█	█	█	█	█	█
PART B Economic Impact Analysis																		
1	Create a methodology for tracking economic impacts									█	█	█	█	█	█			
2	Identify public sector impacts																█	█

Source: Steven Winter Associates and HR&A Advisors

DB-Living Cities Building Energy Efficiency Report Implications



Scaling Retrofits in Multifamily—Related Initiatives



PUBLIC-PRIVATE PARTNERSHIPS

Community Preservation Corporation's
Green Initiative

Rose Smart Growth Investment Fund

New York City Energy Efficiency
Corporation

Living Cities Green Economy Working
Group



Questions?