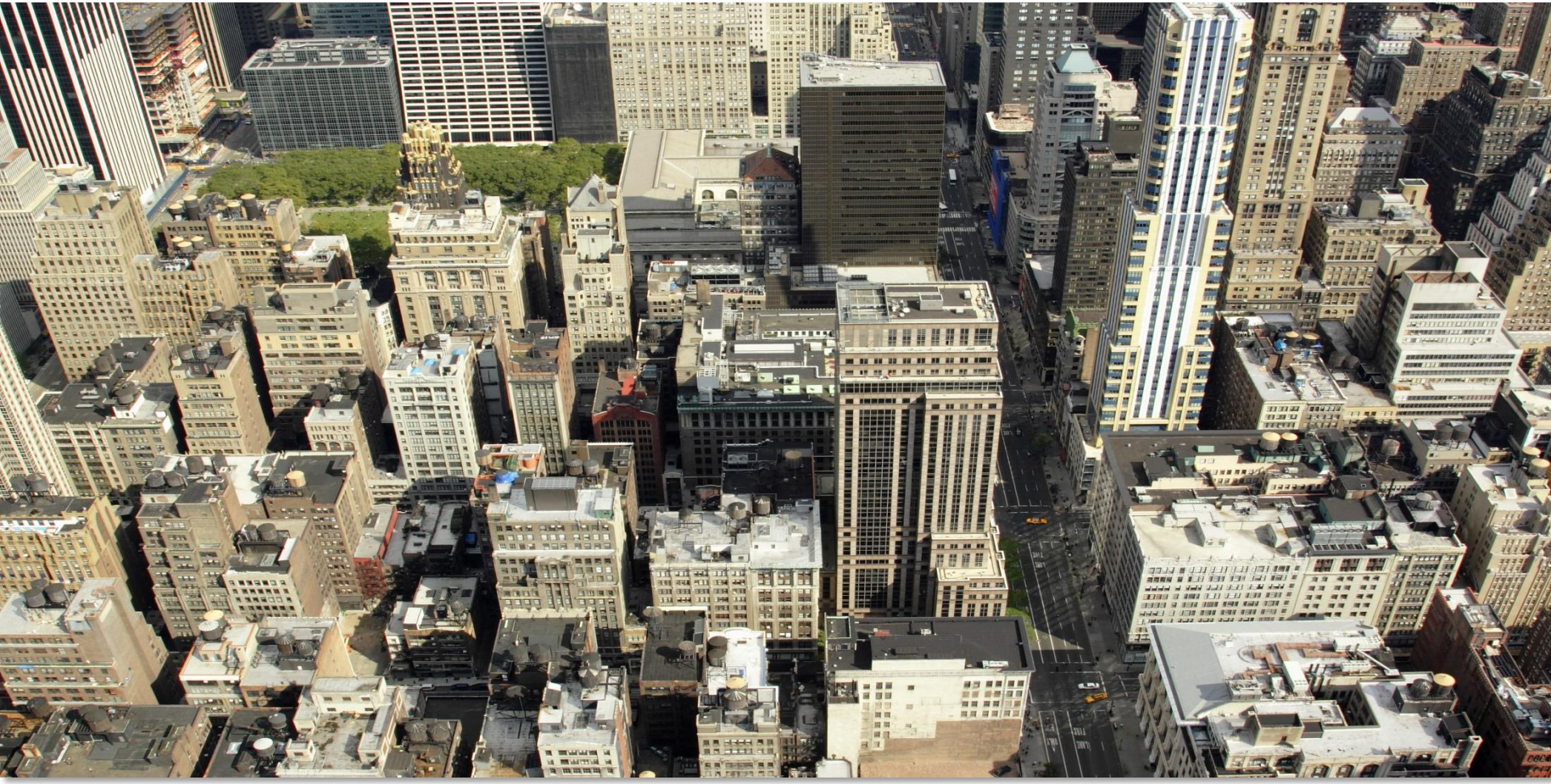
Putting Data to Work

2016 Building Technologies Office Peer Review



U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

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Project Summary

Timeline (NEW PROJECT):

Start date: July 15, 2015

Planned end date: July 14, 2018

Key Milestones

1. DC and NYC have committed to using SEED in their ordinance compliance cycles and continuously provide feedback on the Platform to DOE/LBNL; January 2016
2. DC and NYC pilot programs are designed and ready for implementation; June 2016
3. Toolkit completed and ready for dissemination; December 2017

Budget:

Total Project $ to Date (through CY 2015):

- DOE: $40,720.09
- Cost Share: $110,439.87

Total Project $:

- DOE: $999,047.00
- Cost Share: $1,030,744.00

Key Partners:

District of Columbia Department of Energy & Environment (DOEE)
New York City Energy Efficiency Corporation (NYCEEC)
New York City Mayor's Office of Sustainability (NYMoS)
New York State Energy Research and Development Authority (NYSERDA)
Vermont Energy Investment Corporation/District of Columbia Sustainable Energy Utility (VEIC/DCSEU)

Project Outcome:

Use building energy performance data to improve energy efficiency program design and delivery, aiming to expand the market for energy efficiency in multifamily and commercial buildings. Efforts link to BTO MYPP Commercial and Residential Buildings Integration Strategies

Purpose and Objectives

Problem Statement:

Buildings can account for 50 to 75 percent of greenhouse gas emissions in large US cities.

More building performance data is available from benchmarking and audit ordinances—yet **questions remain about how to use the information** to design better energy efficiency programs.

The project will answer questions about the **value of benchmarking data**—enabling cities and utilities to **optimize efficiency programs** in their jurisdictions.

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Purpose and Objectives

Target Market and Audience: Private market stakeholders, efficiency program administrators, and city officials who are involved in energy benchmarking and audit data collection.

Impact of Project: The project will leverage preliminary or planned efforts in the **DC and NYC markets** to incorporate benchmarking and related policy data into efficiency program design.

- Addresses **~4,400 of the 24,896 commercial and multifamily buildings** covered by city benchmarking and other ordinances in DC and NYC
- Expect a **10% increase in energy savings** of efficiency programs, **49,826 MWhs** in additional energy savings, **$21 million in annual investment** in energy efficiency improvements
- Extended deployment in a network of cities could impact: 83,000 buildings across 22 cities, annual savings of 2.2M MWhs, $964M in annual EE investment
- Project outputs: **Toolkit** of resources for other jurisdictions to enable the replication of the successes of the DC and NYC programs

Approach

Two Pronged Approach:

Pilot Phase (Years 1 and 2): DC and NYC will implement SEED and BEDES in data collection, and will pilot energy data application programs.

Dissemination Phase (Year 3): Throughout the project, IMT will capture lessons learned by DC and NYC, and will develop a resource **toolkit** for broad, national dissemination so that other jurisdictions can replicate successful efforts.

Approach

Key Issue: Improving energy efficiency program design and delivery using building performance data to overcome market barriers to energy efficiency in the multifamily and commercial building sectors

Distinctive Characteristic: Cross-organizational collaboration

- Working with energy program administrators on the ground in leading city governments and with organizations operating within those cities to centralize and standardize ordinance data management
- Understanding how to use information to best inform energy efficiency program deployment and capturing the outcomes for use by other jurisdictions to minimize startup barriers
- Working directly with LBNL and DOE to provide feedback on SEED from the cities' use of the Platform and assisting in business process integration within those cities

Progress and Accomplishments

Accomplishments: This project is in the first year of implementation; full toolkit will be disseminated to the market during the third year.

SEED-Specific Accomplishments:
Both DC and NYC have joined the SEED Platform Collaborative as Inaugural Partners and both cities actively participate in the SEED Community – providing feedback to DOE and LBNL on SEED functionality and features, and collaborating with other participating jurisdictions on lessons learned and best practices.

Progress and Accomplishments

Accomplishments in DC:
DOEE shares all benchmarking data with the DCSEU, so it can better shape and target its energy efficiency incentives for maximum performance impact. DOEE and DCSEU were sharing the benchmarking data prior to receiving the DOE grant described herein, but the grant has enabled more extensive and integrated work.

Accomplishments in NYC:
In addition, NYC launched the Retrofit Accelerator in the fall of 2015, using benchmarking and audit data to target the highest-savings-potential energy efficiency projects. Replicable lessons learned and best practices will be captured and shared in the final toolkit.

Progress and Accomplishments

Market Impact:

This project will enable DC and NYC to more effectively use building energy efficiency to achieve their ambitious sustainability goals and could help utilities better target their energy efficiency programs. City activities include:

- Working with the SEED Platform Collaborative and providing feedback on the city-level use case for SEED
- Piloting energy efficiency programs that make data-driven decisions
- Continuing the conversation with other jurisdictions by sharing lessons learned and best practices

The project will result in a **publicly-available toolkit** of resources—available by summer 2018—for local jurisdictions to support their own data-driven energy efficiency programs.

Project Integration and Collaboration

Project Integration: Diverse group of partners leverages existing dialogue within an extensive network of jurisdictions, industry, and the NGO community—along with an intimate understanding of local jurisdictions' unique challenges and business processes.

Partners, Subcontractors, and Collaborators:

- District of Columbia Department of Energy & Environment (DOEE)
- New York City Energy Efficiency Corporation (NYCEEC)
- New York City Mayor's Office of Sustainability (NYMoS)
- New York State Energy Research and Development Authority (NYSERDA)
- Vermont Energy Investment Corporation/District of Columbia Sustainable Energy Utility (VEIC/DCSEU)

Communications:

- Press Release from the White House in January 2016 notes project partner participation in the SEED Platform Collaborative
- Paper summarizing the project and status has been accepted to the ACEEE 2016 Summer Study. Co-authors on the paper include IMT, DOEE, NYMoS, DOE and LBNL.

Next Steps and Future Plans

Next Steps and Future Plans:

Near term:

- Cities continue working with DOE, LBNL and the SEED Platform Collaborative Community to implement SEED and BEDES for data collection and management
- NYCEEC updates the EfficienSEE™ tool to include the most current benchmarking information, and to incorporate the commercial sector

Long Term:

- Team captures lessons learned and best practices throughout the DC and NYC pilots, and builds toolkit resources
- Partners continue to collaborate with groups working on similar issues, to understand what resources are most useful to jurisdictions

REFERENCE SLIDES

Project Budget

Variances: The number of subrecipient partners has presented logistical challenges coordinating subrecipient agreements post-award. To date, not all subrecipient agreements have been executing, causing work milestones and the associated cost/costshare to be pushed back in the schedule.

Cost to Date: Through the end of calendar year 2015, 4% of the total project fee has been expended, with 10% of the cost share expended; this averages to 7% of the total project cost expended.

Budget History

July 2015– FY 2015 (past)		FY 2016 (current)		FY 2017 – July 2018 (planned)	
DOE	Cost-share	DOE	Cost-share	DOE	Cost-share
$ 7,009.96	$ 324.80	$306,050.03	$400,465.07	$685,929.01	$629,942.13

Project Plan and Schedule

Project Start: July 15, 2015 (Awarded August 2015)
Project End: July 14, 2018
Milestone or activity met as planned
Milestone or activity deadline (initial: grey - revised: red)

Task and Milestone	Duration of Tasks and Quarter of Completion for Milestones														
	15	FY 2016					FY 2017				FY 2018				
	Q4	Q1	Q2		Q3	Q4	Q1	Q2		Q3	Q4	Q1		Q2	Q3
Task 1: Project Management Plan															
Task 2: Integrate SEED and BEDES into project workflows															
Milestone 2.1: SEED established as data tool and plan established to align existing databases															
Milestone 2.2: BEDES is established as protocol for data collection and transfer															
Milestone 2.3 :Feedback to DOE provided based on processes established. Technical integration pathways documented and budgeted.															
Subtask 2.1: Prepare for Pilot Programs															
Milestone 2.1.1: NYC and DC pilot programs designed															
Milestone 2.1.2: Benchmarking data ready for project use															
Task 3: DC Pilot Program															
Milestone 3.1: DC trends in benchmarking data are identified, best practices for data analysis captured, and recommendations for sectors and measures to target are developed for program design and implementation															
Subtask 3.1: Integrate DC Benchmarking Ordinance Data															
Milestone 3.2.1: Existing DC data tools updated and populated with DC data, using SEED for all activities in which SEED functionality meets city needs															
Subtask 3.2: Implement protocol for use of ordinance data															
Milestone 3.3.1: DC program participation relative to using ordinance data is evaluated, and customer experience surveys are collected															
Task 4: NYC Pilot Program															
Milestone 4.1: In NYC program, trends in benchmarking data are identified and captured into recommendations															
Milestone 4.2: In NYC program, market-facing information is available and recommendations are communicated															
Milestone 4.3: NYC data combined with other datasets, using SEED for all activities in which SEED functionality meets city needs.															
Subtask 4.1: Update the Energy Savings Potential (ESP) Tool for Multifamily Properties															
Milestone 4.1.1: EfficienSEE tool update															
Milestone 4.1.2: Program design best practices															
Subtask 4.2: Develop EfficienSEE Tool analysis for commercial buildings															
Milestone 4.2.1: EfficienSEE tool application method															
Milestone 4.2.2: NYC Retrofit Accelerator commercial integration															
Subtask 4.3: Implement protocol for use of ordinance data															
Milstone 4.3.1: In NYC program, participation and methods of using ordinance data evaluated															
Task 5: Create Toolkit Task Summary															
Milestone 5.1: Toolkit completed															
Task 6:Disseminate Toolkit as Replicable National Model Task Summary															
Milestone 6.1: Toolkit is published and disseminated to extended deployment network															

Go/No Go Decision Point 1 - Achieved

Present

Go/No Go Decision Point 2

Go/No Go Decision Point 3