

Crowdsourced Microfinance for Energy Efficiency in Underserved Communities

2014 Building Technologies Office Peer Review



Energy Efficiency &
Renewable Energy

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Project Summary

Timeline:

Start date: 10/1/13

Planned end date: 9/30/14

Key Milestones

1) Online platform wireframe; 3/27/14

2) \$2mm+ pipeline developed: 2/1/14

3) MVP Online Marketplace: 12/1/14

4) 1000 retrofits completed: 10/1/16

Budget:

Total DOE \$ to date: \$47,867.72

Total future DOE \$: \$2,029,876.00

Target Market/Audience:

Networks of community organizations, religious organizations, non-profits, small businesses, schools and multi-family residential buildings in financially underserved communities

Key Partners:

Emerald Cities Collaborative	Metro IAF
Conservation Services Group	NYSERDA
Greenwich Energy Solutions	Crowdvalley
Orrick, Herrington, & Sutcliffe	Sierra Club
Green City Force	LiUNA
Open Society Foundations	Echoing Green
The Social Enterprise Fund	NY Green Bank

Project Goal:

- Market, finance, and install energy efficiency retrofits in 1,000 sub-50k sq. ft. properties in financially underserved communities
- Develop an online platform to connect impact investors to energy efficiency project investment opportunities
- Facilitate the hiring of well-trained, hard to employ low-income workers on projects

Purpose and Objectives

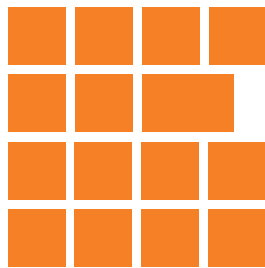
Problem Statement: BlocPower's crowdsourcing platform addresses two problems:

- (1) the inability of traditional energy efficiency and clean energy to serve a \$43bn+ underserved sub-50k sq ft market, and
- (2) the inability of 60mm Americans who are alarmed about climate change to invest in energy efficiency.

Target Market and Audience:

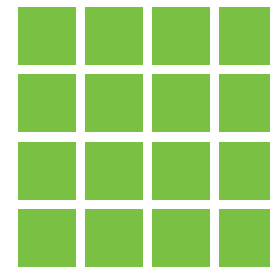
Churches, schools, synagogues, non-profits, SMBs, and multi-family buildings in sub-50k sq ft buildings

Project Blocs



BlocPower Platform

Investors



Institutional and individual impact investors

\$43Bn

Market =

70M annual metric tons of CO2 reduction

 BlocPower

60,000,000 Americans

"alarmed" about climate change

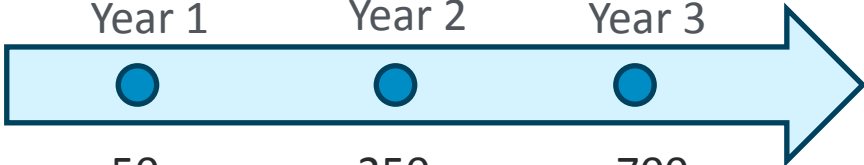
\$5-\$50 Bn

US Impact Investment Capital

Purpose and Objectives

Problem Statement: BlocPower's crowdsourcing platform addresses two main problems: (1) the inability of traditional energy efficiency and clean energy to access a \$43bn+ underserved market, and (2) the inability of 60mm Americans who are alarmed about climate change to invest in energy efficiency.

Impact of Project:



	Year 1	Year 2	Year 3
# projects	50	250	700
\$ invested	\$5mm	\$25mm	\$70mm
\$ saved	\$1.25mm	\$7.5mm	\$25mm
Tons CO2	6,400	39,000	130,000
Jobs created	15	40	100

Long Term Impact:

- Underserved market served
- \$100mm+ capital deployed
- \$100mm+ energy savings
- 200k+ tons CO2 avoided
- 50+ jobs created

Approach



Customer Acquisition

BlocPower acquires customers through partnerships and institutional networks



Emerald Cities
COLLABORATIVE

Project Finance Structure

- Projects are placed into an SPV
- BlocPower provides equity capital as a credit enhancement (5-20%)
- Investors and financial institutions provide debt capital (80%-95%)
- Cash flow from savings are distributed to customers, lenders, and BlocPower

Repayment

- Customers continue to pay energy bills
- Utility pays SPV thru on-bill financing



- BlocPower manages SPV and distributes returns to investors

Distinctive Characteristics and Key Issues

Approach: Customer Acquisition



Customer Acquisition is one of BlocPower’s Primary Strategic Advantages

BlocPower partners have massive scale and will provide \$1mm+ in “in-kind” customer acquisition services for two sided market



5mm+ members: Enterprise Foundation, large national affordable housing developers, National Association of Public Housing Developments, 18 Labor Unions



1.2mm+ members: Metro consultants work with churches, synagogues, and mosques across 7 states



5mm+ members: National environmental stewardship and advocacy membership

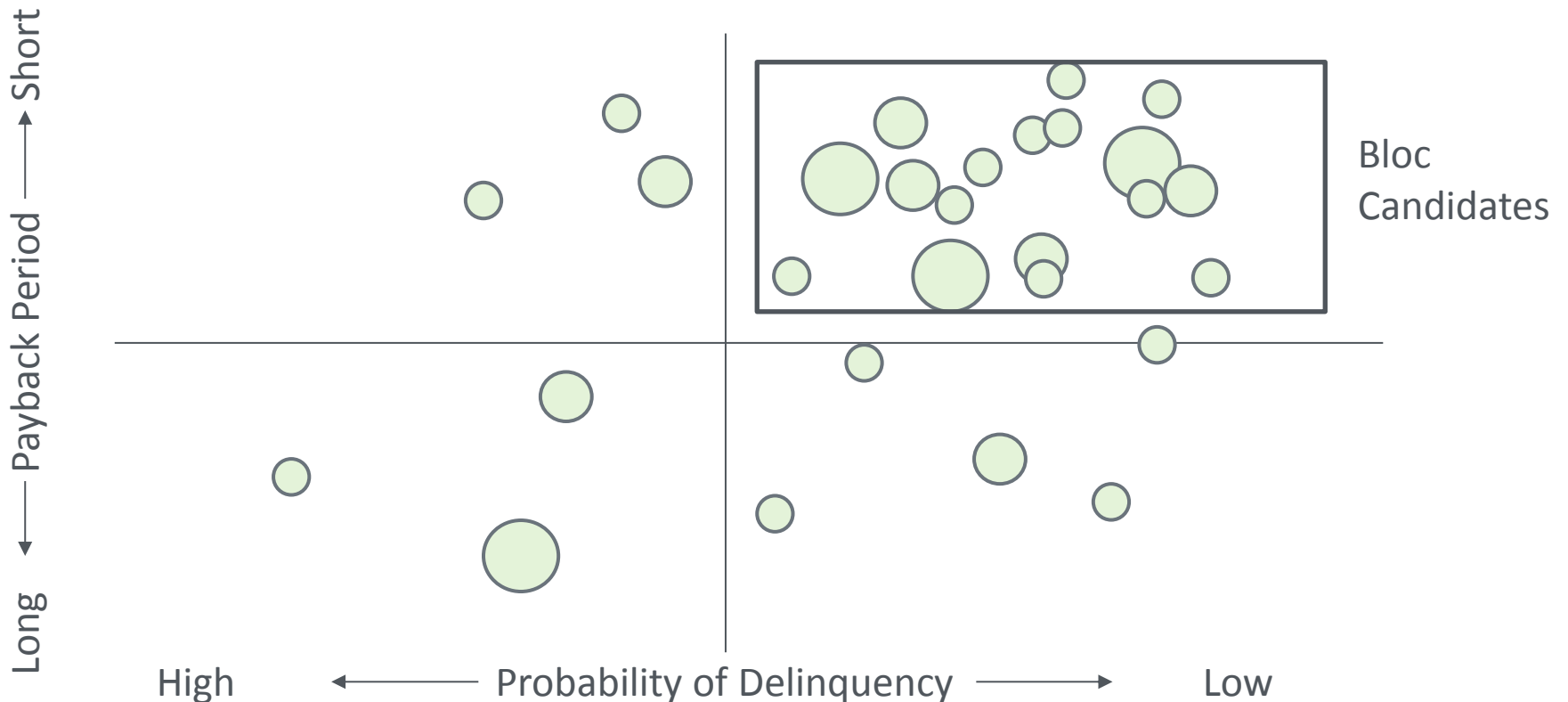


200 person energy efficiency sales force which also offers training for low income lighting auditors

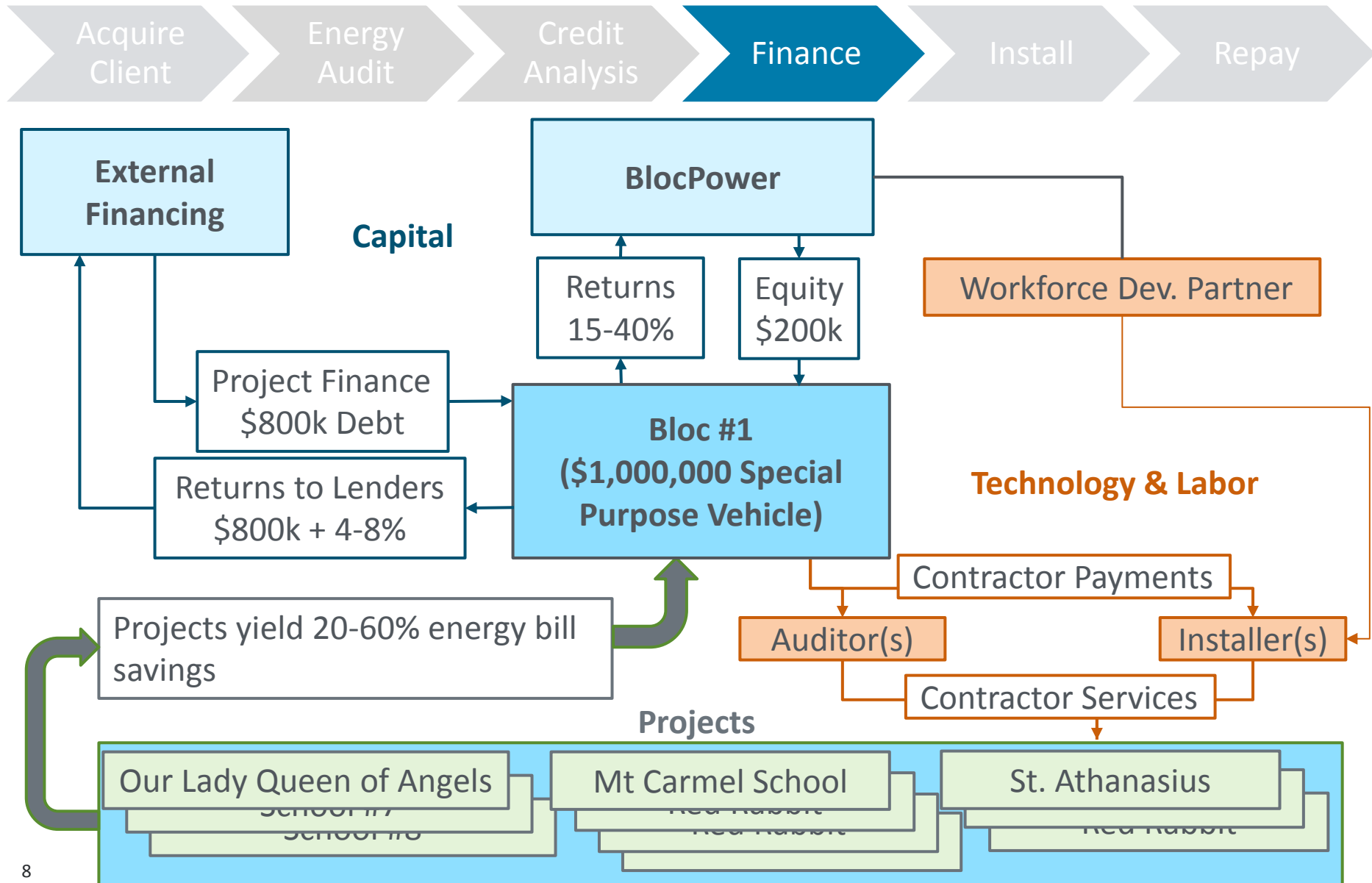
Approach: Credit Analysis



Clients are selected for appeal of their payback period and low delinquency rates



Approach: Finance – Structure



Approach: Finance – Online Marketplace



- BlocPower’s online marketplace will allow investors to invest in project opportunities
- Refinanced blocs will provide liquidity to both BlocPower and primary lenders
- Crowd Valley (past track record, flexibility, and speed) to provide white label solution
- Online platform is expected to launch by Q3, 2014
- Orrick, leading securities law firm, is organizing SEC compliance



BlocPower’s platform allows investment for social, environmental, or financial returns

1. **Social impact focus** on schools, churches, or target markets
2. **Economic focus** on uncorrelated assets with low payback periods & low default
3. **Environmental focus** on carbon emissions reductions through diversified pool of assets with the highest energy consumption savings (kWh)

Social

Client	Sector	Default	Location
School #4	Education	4.1%	NYC
School #6	Education	9.8%	Chicago
School #7	Education	10.2%	Atlanta

Economic

Client	Sector	Default	Payback
School #4	Education	4.1%	21 mths
Church #12	Religious	3.4%	7 mths
Housing #3	Residential	6.8%	16 mths

Environment

Client	Sector	Default	kWh
School #6	Education	9.8%	18,601
Church #5	Religious	7.7%	14,554
Housing #3	Residential	6.8%	27,332

Approach: Finance – Online Marketplace



Installation

BlocPower Installation Service Providers



BlocPower Job Creation

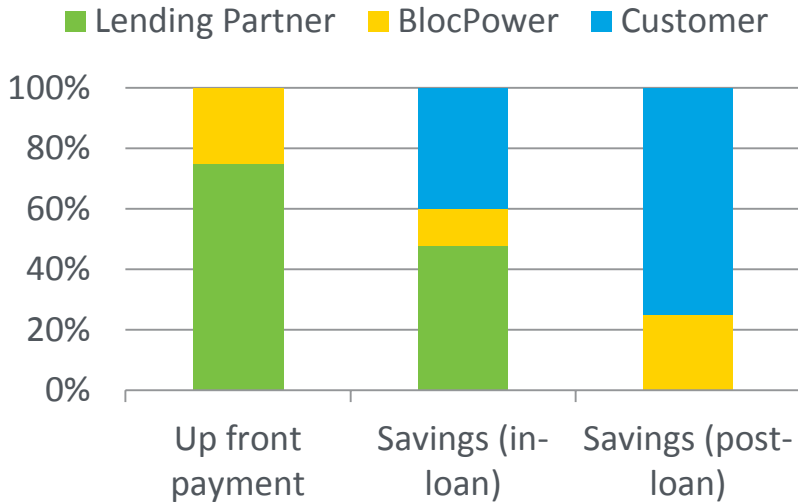
LIUNA!

**GREEN
CITY
FORCE**

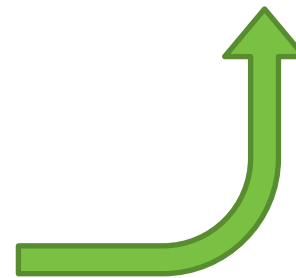
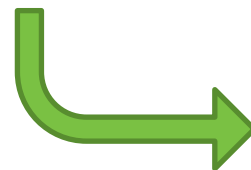


- ❑ LIUNA – Laborers International Union Of North America, expert in providing energy efficiency installation training to hard to employ populations
- ❑ Green City Force – Americorps org that has trained 200 18-24 year old NYC public housing residents in energy efficiency sales and lighting audits
- ❑ National network of effective workforce development partners, due to time spent on stimulus

Approach: Finance – Online Marketplace



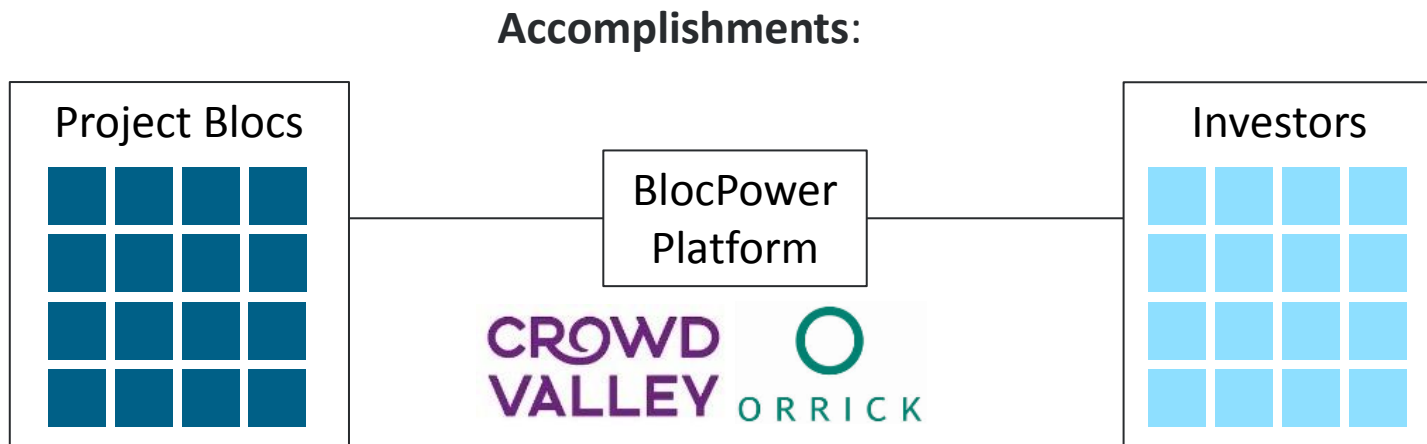
 **BlocPower**



Utility or alternative third party billing agent collects payments from customers on monthly energy bill and remits payment to BlocPower. Lower payment default rates will result, due to the risk of electric shut off.

Progress and Accomplishments

Lessons Learned: Our two sided marketplace requires a large volume of projects to attract investors. Project and investor acquisition are two of the primary functions. BlocPower is currently connecting 30+ buildings to 50+ impact investors to test out the retrofit marketplace model.



BlocPower Project Pipeline

- 1) Religious educational campus (~\$600k)
- 2) 6 Catholic schools (~\$750k)
- 3) 6 Catholic churches (~\$300k)
- 4) Staten Island church & community center (\$300k)

BlocPower Investor Groups

- 1) NYC Energy Efficiency Corporation
- 2) The Reinvestment Fund
- 3) Goldman Sachs UIG (\$5mm min; 20%)
- 4) Citi Community Capital (\$5mm; 10%)
- 5) The Social Entrepreneur's Fund (Seed)

Project Integration and Collaboration

Project Integration:

- Customer acquisition: BlocPower's affinity-group based aggregation approach creates larger scale which is attractive to investors and contractors
- Energy Audits: BlocPower relies on trusted engineering partners to deliver accurate energy savings projections. Remote analytics can drive down audit costs.
- Installation: As project aggregators, BlocPower can push for the inclusion of under-employed skilled labor in, creating job opportunities for our target workforce
- Financing: The use of credit enhancement and Special Purpose Vehicles facilitates financing in financially underserved \$43 Bn energy efficiency market
- Repayment: Con Edison and NYSERDA's on-bill financing program expands credit for the light commercial sector. BlocPower helps generate and collect data that will inform the underwriting criteria of light commercial retrofits

Collaborators:



LiUNA!



Next Steps and Future Plans

BlocPower will complete a \$5mm bloc of Catholic school retrofits in NYC over the next year



6 initial pilot projects underway (~\$750k)



150 Catholic schools within NYC metro

BlocPower will expand to Philadelphia, DC, Boston, and Oakland within the next 2 years

Investors:

The Reinvestment Fund
Investors Circle Philadelphia
The Social Enterprise Fund

Customer Acquisition Partners:

Washington Interfaith Network
Sierra Club (National)
Sungevity (Oakland)



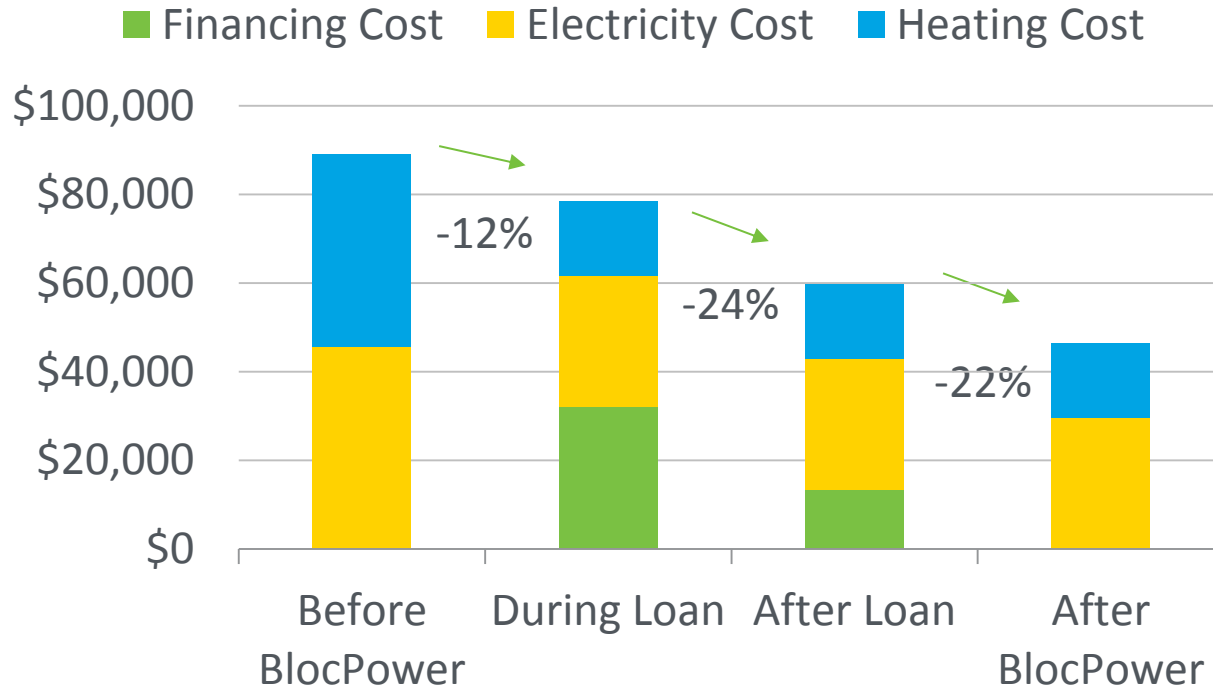
BlocPower seeks to access the entire US financially underserved market. We will connect emerging energy efficiency technologies and underserved properties to retail and institutional investors who seek social, environmental and financial returns.

Reference: What Will a Successful Project Look Like?

Project Example: Our Lady Queen of Angels in East Harlem, NYC

- ❑ Catholic school in East Harlem being operated by the Partnership for New York
- ❑ \$133k initial project cost; 15% IRR; 54.9 tons CO2 emissions avoided; 48% reduction in customer energy bill

Customer Cost Reduction



Job Creation Impact

Our Lady Queen of Angels audited by Mercedes Hodge, after she received training from Green City Force. A resident of public housing, Mercedes works part-time on BlocPower projects as she pursues her nursing degree at BMCC



Project Budget

Project Budget: \$4.6M

Variances: NYSERDA contribution valued at minimum of \$500k instead of mid-range of \$750k

Cost to Date: \$621,960.87

Additional Funding: General Atlantic, Pershing Square Foundation, Halloran Foundation, Jalia Ventures, Armonia Capital, NYSERDA

Budget History

10/1/2013– FY2013		FY2014 (current)		9/31/2016 - FY2016	
DOE	Cost-share	DOE	Cost-share	DOE	Cost-share
\$47,867.72	\$76,299.98	\$236,493.13	\$261,300.04	\$2.1M	\$2.5M

Project Plan and Schedule

Project Plan:

- 10/1/2013-9/31/2016
- 1000-1500 sub-50,000 sq. ft. buildings in financially underserved communities financed via an online marketplace
- Go/no-go decision point: 6 months—Design of wireframe for online marketplace
- Current work: Development of online marketplace, credit analyses, special purpose vehicle and portfolio structure, development of projects

	◆ Milestone/Deliverable (Actual) <i>use when met on time</i>													
	FY2013				FY2014				FY2015					
Task	Q1 (Oct-Dec)	Q2 (Jan-Mar)	Q3 (Apr-Jun)	Q4 (Jul-Sep)	Q1 (Oct-Dec)	Q2 (Jan-Mar)	Q3 (Apr-Jun)	Q4 (Jul-Sep)	Q1 (Oct-Dec)	Q2 (Jan-Mar)	Q3 (Apr-Jun)	Q4 (Jul-Sep)		
Past Work														
Q1 Milestone: Identify User Interface Team	◆													
Q2 Milestone: Design Marketplace Wireframe		◆	◆											
Current/Future Work														
Q3 Milestone: Identify Web Dev Firm			◆											
Q4 Milestone: MVP of Online Marketplace				◆										
Q1 Milestone: Finance Pilot Retrofits					◆	◆								
Q3 Milestone: Evaluate Online Marketplace							◆							
Q4 Milestone: Launch Revised Marketplace								◆						
Yr 3 Q4 Milestone: 1500 Completed retrofits														