

Using Building Energy Disclosure to Massively Scale Up Energy Efficiency Projects

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ACEEE CONFERENCE, ARLINGTON, VA
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The world's first commercial real estate platform for energy retrofit project development, insurance and financing.

Discover Savings Opportunities

All property types

Select a Location

Search

Your on-demand energy retrofit portal.
DISCOVER. INSURE. FINANCE

163,600
NO. OF BUILDINGS

14,110 million
BUILDING AREA SQ.FT.

\$42.3 billion
EST'D ANNUAL ENERGY SPEND

HELIOS-EEX

Search for commercial properties to retrofit, discover savings opportunities, get a business case, review financing options, develop the project.

[LEARN MORE](#)

HELIOS ENERGY PRO

Use end-to-end energy retrofit analytics to develop your energy projects, insure the savings and get the right financing option.

[LEARN MORE](#)

HELIOS FINANCING

Find the best financing solution for your project and ownership situation. We offer PACE, ESAs, loans and leases, with insured savings.

[LEARN MORE](#)

Energy efficiency is abundant, cheap and offers great returns, yet it has been difficult to harvest



COMMERCIAL BUILDINGS:

- 40% of the world's energy use
 - \$75B energy spend wasted annually in the US
 - \$100B US investment opportunity
- **MOSTLY UNTAPPED!**

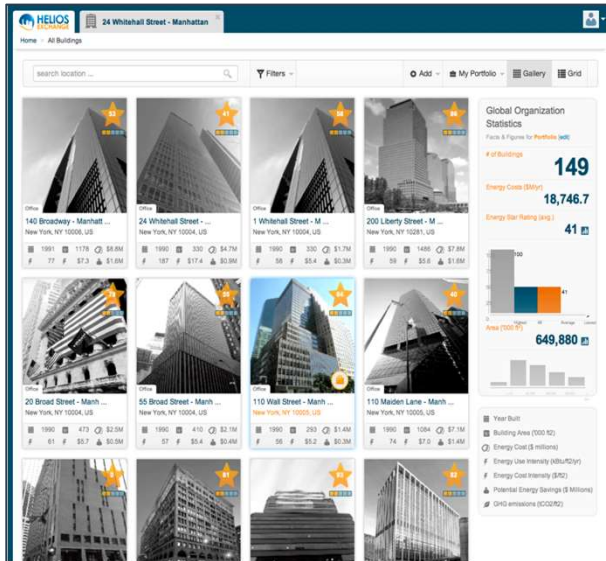
BUILDING OWNERS CAN:

- Increase property value by \$10 to \$40 / Sq. Ft.
- Save 30% to 40% in energy costs
- Generate ROI > 25%

PROBLEM: BUILDING OWNERS/MANAGERS HAVE NO TOOLS TO:

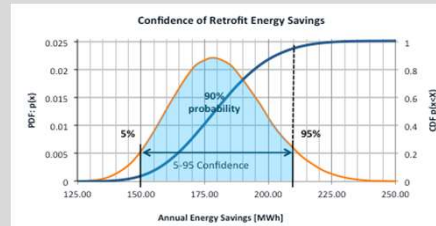
- IDENTIFY RETROFIT OPPORTUNITIES
- TRUST AND INSURE SAVINGS
- ACCESS FINANCING OPTIONS

SOLUTION: ORIENTATION, ASSURANCE AND FINANCING



ORIENTATION
STANDARDIZED BUILDING
ENERGY ANALYTICS

HELIOS EE Risk Rating™



DUE DILIGENCE
SAVINGS RISK RATING
+ INSURANCE



- ✓ PACE Financing
- ✓ Energy Service Agt
- ✓ Loans
- ✓ Leases

FINANCING
ZERO-DOWN FINANCING
FLEXIBLE TERMS

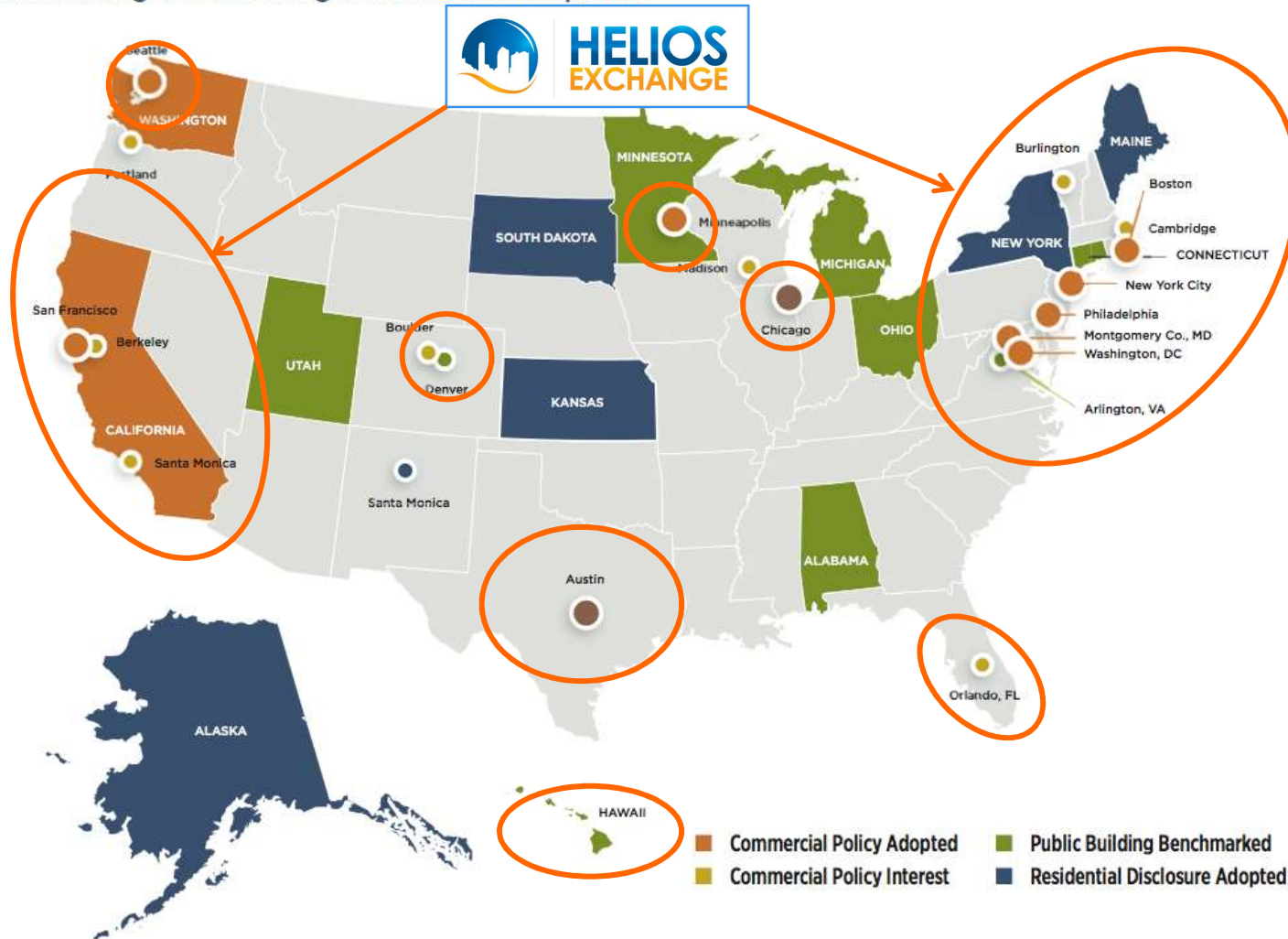
City energy disclosure mandates:
160,000 buildings, 14+ Billion Sq. Ft.

Feature Complete, End-to-End Building Analytics Platform Deployed



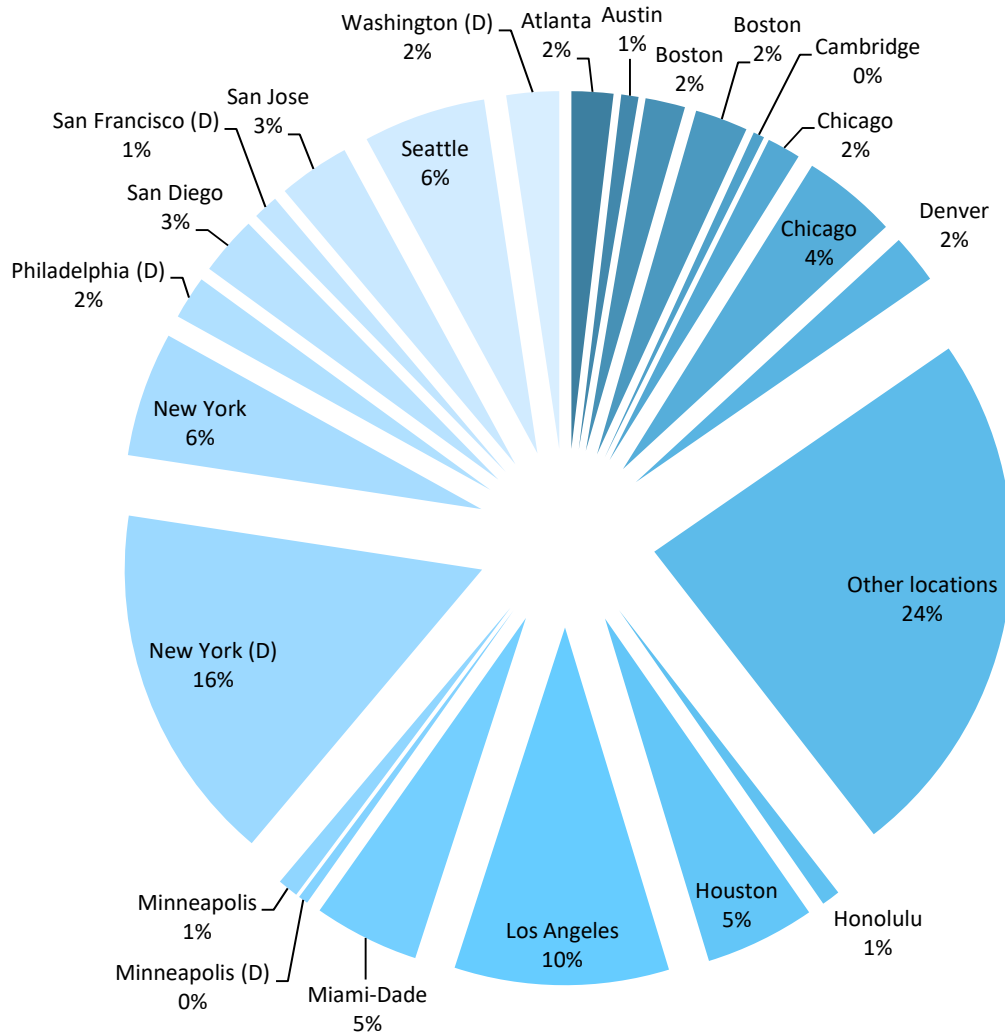
HELiOS Geographic Coverage

U.S. Building Benchmarking and Disclosure Properties



HELiOS Exchange Coverage:

Helios database: Sq. Footage by City



- **14B Square Feet** of commercial buildings impacted by energy disclosure.
- **150,000+** facilities
- **\$30B** in annual energy costs
- **40,000** retrofit candidate buildings
- **\$23B** in project investment needs



HELiOS Exchange Coverage Details

City	Building GFA range	Energy Disclosure Regs	Energy Audit Mandate	# Buildings	Sq. Footage (M Sq.Ft.)	Total Energy Spend (\$M)	# Retrofit candidates (30)	Investment Required (in \$M)
Atlanta	> 20k	pending		1,581	267	\$ 534	474	\$ 445
Austin	> 10k	X	X	1,025	110	\$ 221	308	\$ 184
Boston	> 10k	X		1,265	253	\$ 506	380	\$ 422
Boston	> 10k			5,572	337	\$ 674	1,672	\$ 562
Cambridge	> 25k	X		705	70	\$ 139	212	\$ 116
Chicago	> 250k	X		243	215	\$ 429	73	\$ 358
Chicago	> 50k			3,676	604	\$ 1,208	1,103	\$ 1,007
Denver	> 20k	pending		3,077	314	\$ 628	923	\$ 524
Other locations	> 10k			25,132	3,403	\$ 6,807	7,540	\$ 5,672
Honolulu	> 10k			1,788	119	\$ 237	536	\$ 198
Houston	> 50k	pending		4,538	703	\$ 1,406	1,361	\$ 1,172
Los Angeles	> 20k	pending		19,567	1,368	\$ 2,736	5,870	\$ 2,280
Miami-Dade	> 20k			7,220	675	\$ 1,350	2,166	\$ 1,125
Minneapolis (D)	> 12k	X		297	62	\$ 123	89	\$ 103
Minneapolis	> 20k			1,725	130	\$ 261	518	\$ 217
New York (D)	> 50k	X	X	13,482	2,297	\$ 4,500	4,045	\$ 3,829
New York	< 50k and > 10k			36,480	796	\$ 1,592	10,944	\$ 1,326
Philadelphia (D)	> 10k	X		1,245	277	\$ 554	374	\$ 462
San Diego	> 20k	pending		6,877	377	\$ 754	2,063	\$ 628
San Francisco (D)	> 10k	X	X	1,715	162	\$ 323	515	\$ 269
San Jose	> 20k	pending		5,327	455	\$ 911	1,598	\$ 759
Seattle	> 20k	pending		9,236	784	\$ 1,567	2,771	\$ 1,306
Washington (D)	> 50k	X		1,831	336	\$ 672	549	\$ 560
Total		X		153,604	14,113	\$ 28,133	46,081	\$ 23,522

Retrofit Explorer

- Create building model in Helios
- Run Retrofit Explorer to determine possible efficiency measures
- For each measure, estimate:
 - cost
 - energy savings
 - cost savings
 - payback period
 - internal rate of return
 - GHG emissions reduction
 - potential job creation

Type	Number & Measure Description	Measure Cost	Incentive	Savings/yr	Payback	IRR
	EEM1 2-lamp T8 lighting fixture Water Heating	\$322,272	\$0	\$153,202	2.1 yrs	47.4%
	EEM3 Fault detection and diagnostic Envelope • Shading Device Installation	\$365,388	\$0	\$73,759	5.0 yrs	18.8%
	EEM6 Overhangs, fins, blinds Envelope • Shading Device Installation	\$247,965	\$0	\$18,251	13.6 yrs	-26.2%
	EEM2 Day-lighting sensor system Lighting • Day-lighting Control	\$128,982	\$0	\$23,426	5.5 yrs	9.1%
	EEM7 Improved condensing gas water heater Water Heating • Heater Replacement	\$54,808	\$0	\$5,866	9.3 yrs	-2.8%
	EEM5 Occupancy sensor system Lighting • Occupancy Sensor Installation	\$322,272	\$0	\$20,708	15.6 yrs	-12.8%
	EEM4 High efficiency centrifugal chiller HVAC • Cooling System Retrofit	\$513,518	\$0	\$60,416	8.5 yrs	10.0%

New York City

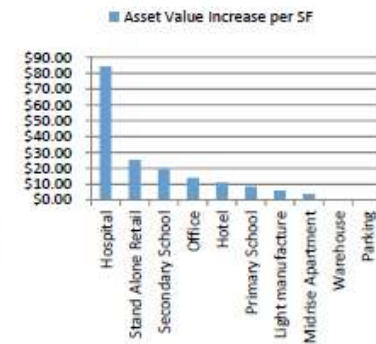
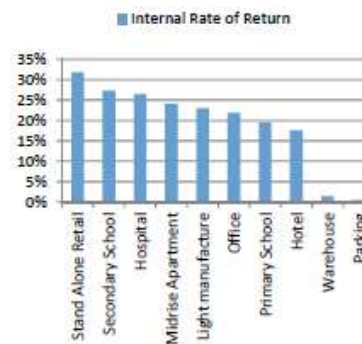
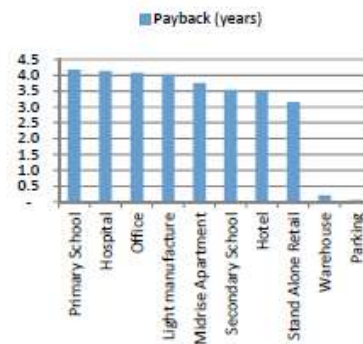


Energy Retrofit Potential Analysis: New York City

Scenario: Whole Building Retrofit

Portfolio Statistics sorted descending by square feet

Property Use	# Props	SF (000)	% of SF	Total Project Cost (000)	Expected Savings over Project Lifetime (000)	Average Energy Savings	Annual GHG Savings (MtCO ₂ e/yr)	Average Simple Payback (years) w/rebate	Average Internal rate of Return (IRR)	Potential Job Creation (#FTE)	Potential Asset Value Increase per SF
1 Midrise Apartment	31,090	1,782,128	57.7%	\$2,536,176	\$7,240,544	14.7%	3,044,442	3.8	24.1%	30,434	\$3.80
2 Office	8,197	928,768	30.0%	\$5,023,352	\$13,752,816	29.2%	2,098,163	4.1	21.9%	60,280	\$14.00
3 Warehouse	2,754	90,177	2.9%	\$21,087	\$68,401	0.6%	3,567	0.2	1.4%	253	\$0.09
4 Stand Alone Retail	3,237	83,640	2.7%	\$563,637	\$2,007,840	47.3%	281,955	3.2	31.9%	6,764	\$25.15
5 Hotel	624	64,382	2.1%	\$299,861	\$791,836	22.2%	162,074	3.5	17.6%	3,598	\$11.03
6 Light manufacture	1,554	41,201	1.3%	\$80,009	\$210,853	7.5%	49,141	4.0	23.0%	960	\$5.71
7 Secondary School	817	29,184	0.9%	\$194,265	\$581,175	36.9%	98,430	3.5	27.3%	2,331	\$19.60
8 Hospital	447	26,862	0.9%	\$661,776	\$2,375,777	43.3%	246,983	4.1	26.5%	7,941	\$84.39
9 Parking	891	21,434	0.7%	\$1,749	\$7,806	0.3%	172	0.1	0.5%	21	\$0.03
10 Primary School	292	15,710	0.5%	\$54,792	\$123,511	21.0%	20,344	4.2	19.5%	658	\$8.61
All Other Categories	40	7,470	0.2%	\$61,036	\$221,614		23,004				
Grand Total	49,943	3,090,956	100.0%	\$9,497,738	\$27,382,174	19.2%	6,028,276	3.5	22.7%	113,973	\$6.89



Philadelphia

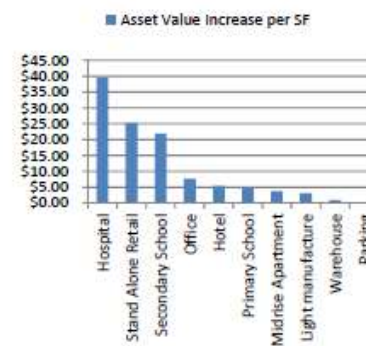
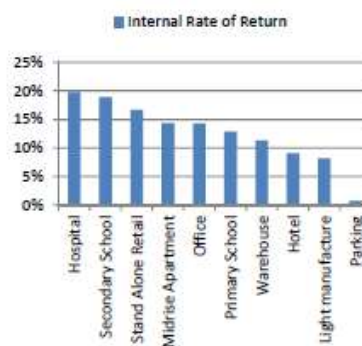
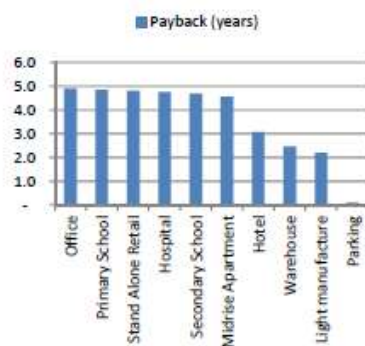


Energy Retrofit Potential Analysis: Philadelphia

Scenario: Whole Building Retrofit

Portfolio Statistics sorted descending by square feet

Property Use	# Props	SF (000)	% of SF	Total Project Cost (000)	Expected Savings over Project Lifetime (000)	Average Energy Cost Savings	Annual GHG Savings (MtCO2e/yr)	Average Simple Payback (years) w/rebate	Average Internal rate of Return (IRR)	Potential Job Creation (#FTE)	Potential Asset Value Increase per SF
1 Office	362	100,586	36.3%	\$308,878	\$846,817	22.2%	241,215	4.9	14.3%	3,707	\$7.57
2 Warehouse	192	32,835	11.8%	\$24,039	\$73,121	6.4%	15,072	2.5	11.3%	288	\$0.92
3 Primary School	275	32,050	11.6%	\$67,320	\$156,316	16.4%	31,426	4.8	12.9%	808	\$4.79
4 Secondary School	99	30,339	10.9%	\$179,994	\$650,990	31.7%	153,996	4.7	18.9%	2,160	\$21.88
5 Hospital	33	23,699	8.6%	\$295,748	\$1,024,410	39.5%	167,517	4.8	19.8%	3,549	\$39.57
6 Stand Alone Retail	64	20,599	7.4%	\$141,761	\$541,112	40.3%	72,704	4.8	16.7%	1,701	\$25.20
7 Hotel	74	15,280	5.5%	\$39,188	\$108,071	15.3%	24,115	3.1	9.1%	470	\$5.40
8 Parking	36	7,570	2.7%	\$300	\$1,064	1.3%	221	0.1	0.7%	4	\$0.07
9 Light manufacture	39	5,574	2.0%	\$10,082	\$34,666	4.6%	8,784	2.2	8.2%	121	\$3.14
10 Midrise Apartment	27	4,667	1.7%	\$7,496	\$21,212	17.9%	9,117	4.6	14.4%	90	\$3.68
All Other Categories	43	3,942	1.4%	\$24,319	\$63,939		14,316				
Grand Total	1,244	277,140	100.0%	\$1,099,126	\$3,521,719	19.0%	738,485	4.1	13.2%	13,190	\$8.21



Washington DC

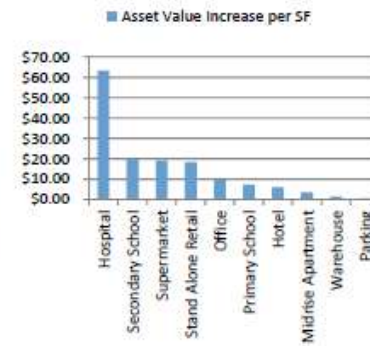
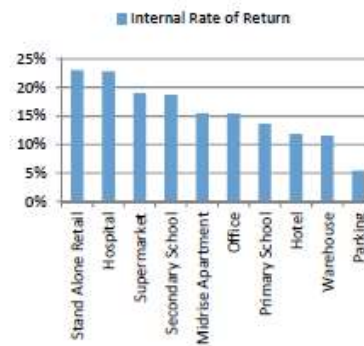
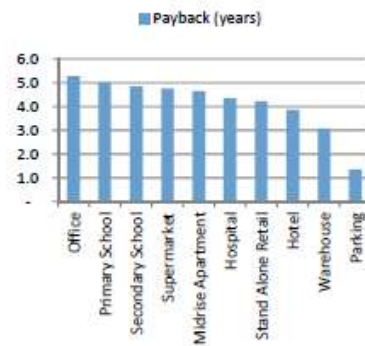
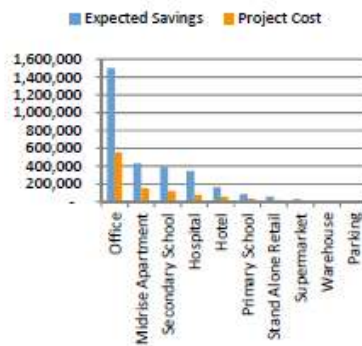


Energy Retrofit Potential Analysis: Washington DC

Scenario: Whole Building Retrofit

Portfolio Statistics sorted descending by square feet

	Property Use	# Props	SF (000)	% of SF	Total Project Cost (000)	Expected Savings over Project Lifetime (000)	Average Energy Savings	Annual GHG Savings (MtCO2e/yr)	Average Simple Payback (years) w/rebate	Average Internal rate of Return (IRR)	Potential Job Creation (#FTE)	Potential Asset Value Increase per SF
1	Office	709	149,390	44.5%	\$554,880	\$1,500,091	28.6%	481,702	5.3	15.4%	6,659	\$9.49
2	Midrise Apartment	707	112,032	33.3%	\$153,966	\$433,896	18.9%	576,394	4.7	15.5%	1,848	\$3.44
3	Hotel	104	23,433	7.0%	\$59,735	\$161,610	16.9%	37,904	3.9	11.9%	717	\$6.09
4	Secondary School	67	20,838	6.2%	\$119,086	\$392,229	37.4%	88,331	4.8	18.7%	1,429	\$19.87
5	Primary School	115	12,372	3.7%	\$36,412	\$87,268	21.7%	20,517	5.0	13.6%	437	\$7.19
6	Warehouse	66	5,669	1.7%	\$3,234	\$9,917	9.0%	3,480	3.1	11.6%	39	\$1.26
7	Hospital	8	4,955	1.5%	\$79,477	\$347,694	39.1%	54,761	4.3	22.8%	954	\$63.21
8	Stand Alone Retail	22	3,091	0.9%	\$17,107	\$55,533	47.8%	13,563	4.2	23.0%	205	\$18.47
9	Parking	10	1,717	0.5%	\$799	\$3,371	6.8%	618	1.3	5.4%	10	\$0.67
10	Supermarket	12	1,541	0.5%	\$9,465	\$29,944	19.9%	7,565	4.8	19.0%	114	\$19.17
	All Other Categories	10	907	0.3%	\$3,866	\$20,518		3,715				
	Grand Total	1,830	335,946	100.0%	\$1,038,028	\$3,042,072	24.0%	1,288,551	4.8	15.5%	12,456	\$7.56



Leadership team

Management Team



Pierre Trevet

Founder & CEO

25+ years experience in Financial Services and IT industry
Formerly: Head of Sustainability Finance, C3 Energy
Managing Director, Innovest Strategic Value Advisors;
CEO, Ecolistic; Consultant, Statkraft Engineering AS



Hewson Baltzell

President & COO

35 years experience in investment banking, real estate and sustainable finance. Formerly: COO, Just Capital, Executive Director at MSCI, President and co-Founder of Innovest, VP at Lehman Brothers and JPMorgan Chase.



Ralph Morgan

Senior Advisor & Executive Committee Member

30+ years experience in operations, project planning and management, business development, financial services and risk management. Former executive at Northrop, Bechtel, DynCorp International, and Marsh & McLennan.

Technical Advisory Board



Prem G. Abraham

Formerly Executive at GE, Int'l Resource Exchange and Raychem Corp. Has advised Philips, Hewlett Packard, Xerox and Westinghouse Electric.



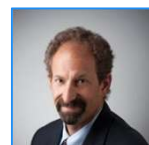
Michael Evans

Senior Advisor. Formerly Global Head of Real Estate and Construction practice at Ernst & Young for 10 years. 30+ years CRE experience.



Dr. Peter Williams

CTO, Big Green Innovations at IBM. Visiting Lecturer at Stanford University. 30+ years experience in enterprise software.



Dr. Doug Arent

Executive Director at NREL.
Lead Author IPCC 5th report.



Charles W. Snyder

ex-CFO at Bechtel Investments. 30 years experience in infrastructure project finance.



Scott Henderson

Clean Energy finance expert
Formerly: Director of Finance at Clinton Climate Initiative.

For more information

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