

NEW ECOLOGY



Community-Based Sustainable Development



October 22, 2024

Case Studies and Funding ULI Getting Green for Going Green



New Ecology – About Us

- Mission-driven nonprofit organization working to create a more sustainable, resilient, and equitable built environment.
- Our goal is to bring the benefits of sustainable development to all communities, with a particular focus on underserved populations.
- Our work spans nationally, and we are committed to making buildings healthier, more energy-efficient, and durable.

NEI In the Mid-Atlantic

- Project Types
- Certifications
- IRA Funding Programs
- Grant Administration
- Collaborations



Strategic Energy Assessments & Decarbonization Audits

- **Energy Assessments:** In-depth evaluations of building performance to identify opportunities for energy savings, improved operational efficiency, and cost reduction.
- **Decarbonization Audits:** Targeting the reduction of greenhouse gas emissions, our decarbonization assessments examine building systems, energy usage, and the potential for electrification.



Deep Energy Retrofit & Zero Over Time Planning

Deep Energy Retrofit

- A Deep Energy Retrofit (DER) leverages the investments made during a building refinance and rehabilitation process to achieve significant energy load reduction, carbon emissions mitigation, and improved resiliency, health, and comfort.

Zero Over Time (ZOT) Planning:

- Long-term planning for energy efficiency upgrades, renewable energy adoption, and system retrofits.
- ZOT planning focuses on reducing carbon footprints incrementally, while ensuring operational feasibility and cost-effectiveness for both individual buildings and entire portfolios.

IRA Bootcamps

NEI is at the forefront of **IRA Readiness**.

- Portfolio Analysis
- IRA Technical Assistance

HDC MidAtlantic		8
Cohort 1		6
PA		
HDC		6
Cohort 2		2
PA		
HDC		2
NHT Phase I		45
Cohort 1		8
CA		
Community HousingWorks		2
WA		
Columbia Non Profit Housing		3
El Centro de la Raza		3
Cohort 2		9
TX		
Foundation Communities		5
VA		
Housing Alexandria		4
Cohort 3		2
ME		
Bath Housing		2
Cohort 4		22
MA		
2Life Communities		3
Coalition for a Better Acre		1
Common Ground Development Corporation		4
Fenway Community Development Corporation		4
HallKeen Management Inc		7
Hebrew Senior Life		3
Cohort 5		4
MA		
Housing Corporation of Arlington		4

NHT Phase II		15
Cohort 1		11
MA		
Aliston Brighton Community Development Corporation		3
Hebrew Senior Life		1
Just a Start		1
NH		
Affordable Housing Education and Development		4
RI		
NeighborWorks Blackstone River Valley		2
Cohort 2		4
DC		
Westley Housing		1
TN		
Urban Housing Solutions		3
NHT Phase III		9
Cohort 1		9
MD		
AHC (Affordable Homes & Communities)		2
Unity Properties (Bon Secour)		2
VA		
Better Housing Coalition		2
Community Builders		2
Harrisonburg RHA		1
Grand Total		77

Federal Funding Landscape

- **Investment Tax Credit (ITC)**
 - Section 48/48E (Solar and Batteries)
 - Section 30C (EV Chargers)
 - Section 45L (\$2500 for each Energy Star unit or \$5,000 for each ZERH unit)
- **GGRF**
 - Solar for All
 - National Clean Investment Fund
 - Clean Community Investment Accelerator
- **GRRP Greenhouse Gas Reduction Program**
 - Benchmarking Assistance
 - (Elements, Comprehensive, & Leading Edge applications all are now closed.)
- **Home Energy Rebates**
 - Home Efficiency Rebates (HER) (previously called HOMES)
 - Home Electrification and Appliance Rebate (HEAR)
- **179D Tax Reduction**
 - 4 story or higher MF/ commercial buildings (reduces LIHTC basis)
 - New construction or existing buildings

Maryland / IRA Funding Landscape

MD DHCD

- MEEHA (Multifamily Energy Efficiency and Housing Affordability Program)
- GHGRP Greenhouse Gas Reduction Program (GHGRP)
- Empower Maryland Programs- Each MD Utility

MEA (Maryland Energy Administration)

- Electric Vehicle Supply Equipment Equity (EVSE)
- Energy Efficiency Equity Grant Program (2025 Program Info coming soon)
- Will be administering MD's Home Energy Rebate Program

IRA funds in Action: Lansdowne Garden Apartments

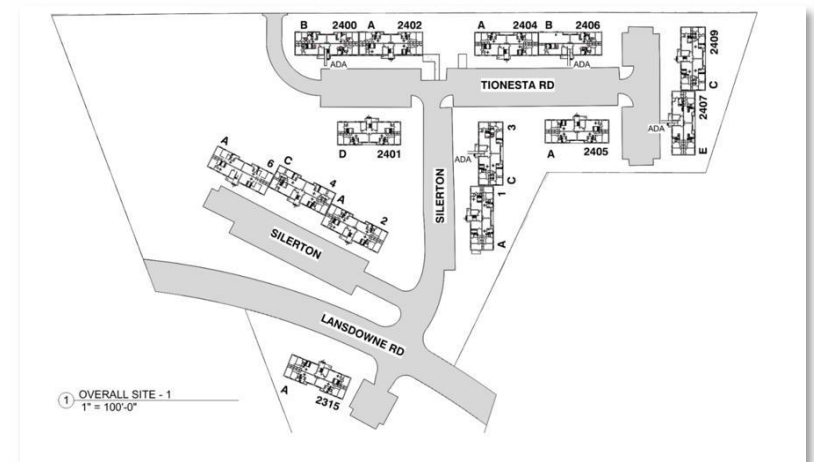
2401 Tionesta Drive, Halethorpe, MD 21227

LIHTC, GRRP, MEEHA, ITC 48/48E and 48L



Lansdowne Statistics

- Owner: AHC Greater Baltimore
- 168 apartments on site in 14 residential buildings
- LMI
- Built in 1970, last rehabbed 2005/2006
- 3 stories- partially below grade
- 80% efficient gas furnaces
- Central gas water heater for each of the 14 buildings



Site Plan by TwoPoint Studio

Sustainability Funding being Utilized

- LIHTC project with MD DHCD funding
- GRRP (Green and Resilient Retrofit Program) Leading Edge Award (HUD)
- GRRP Benchmarking Assistance
- MEEHA (Multifamily Energy Efficiency and Housing Affordability Program) funding for efficiency upgrades
- Investment Tax Credit (ITC) 48/ 48E- solar
- ITC 45L for Energy Star Multifamily New Construction 1.1

Certifications/Goals

- Energy Star Multifamily New Construction 1.1 (Rev. 09)
- Enterprise Green Communities PLUS
- ZERO ENERGY (offset 100% of their usage- resident and owner- with solar.)
- Indoor Air Plus
- ZERH V2

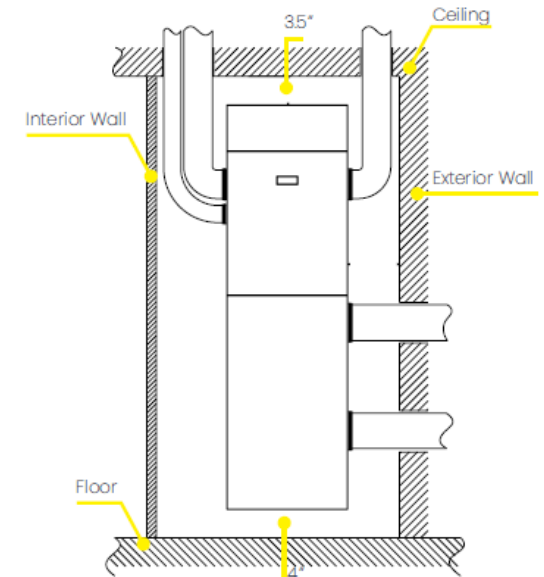


What does this look like at Lansdowne: Architecture/Site

- Continuous exterior insulation
- Exterior drain
- Vapor barrier
- New roofs
- Attic bulkheads closed. Insulation added.

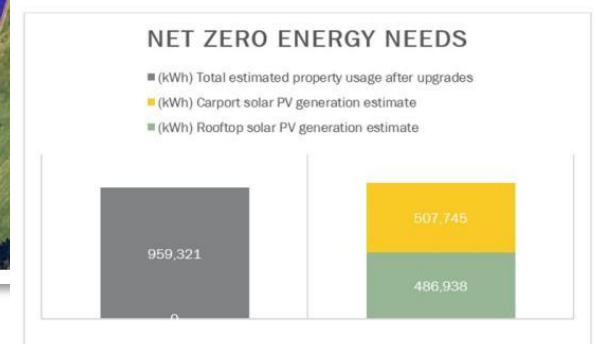
What does this look like at Lansdowne: MEP

- Gas furnaces- replaced with heat pumps.
- Central gas water heating systems- replaced with central CO2 heat pump water heaters.
- Gas ranges- replaced with electric



What does this look like at Lansdowne: Solar PV

- Solar on the roofs and on carports in the parking lots.
- EV Charging stations
- New Energy Star windows
- New vestibules to enclose the entryways. (Beautifully designed by 2Point!)



Case Study: May Building in Pittsburgh

111 Fifth Avenue, Pittsburgh, PA 15222

LIHTC, GRRP



May Building Statistics

- Built in 1907
- 12- Story Building, 88 Units
- Steel frame, brick and terra cotta Classical Revival building for the May Drug Company
- Prior Renovation and addition: In 1974, the building went through a major renovation with an addition converting from an office building to an 88-unit apartment building
- New windows throughout, new design of levels 1 and 2 storefront
- 1970s curtainwall replacement
- Central gas fired DHW boiler and storage tanks
- Heating and cooling are provided by central gas-fired boiler system
- Cooling tower, chillers in the basement and fan coil units



current May Building, showing original façade and the 1970s addition; it is one floor plan on the interior

Sustainability Funding being Utilized

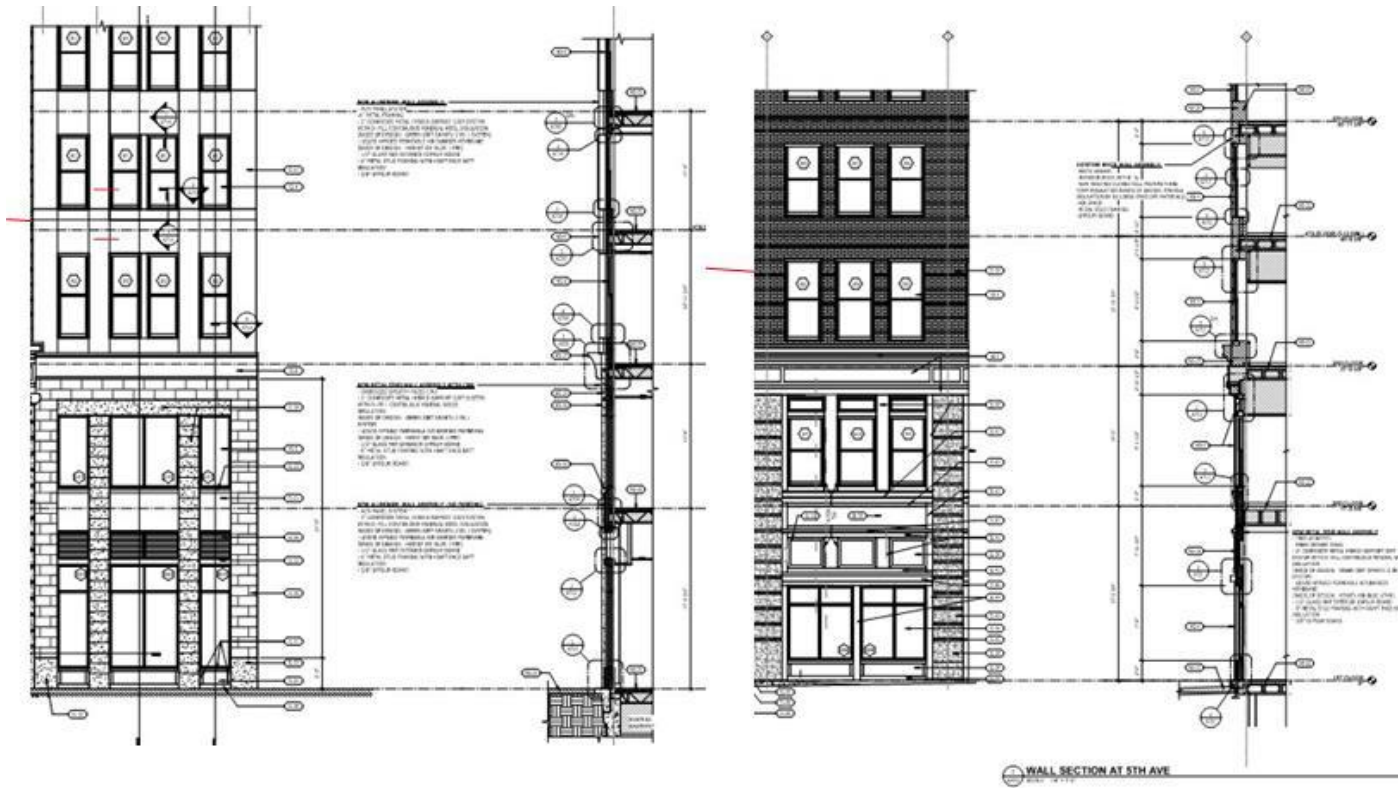
- LIHTC project with PHFA funding
- GRRP (Green and Resilient Retrofit Program)
Leading Edge Award (HUD)
- GRRP Benchmarking Assistance

Certifications/Goals

- Energy Star Multifamily New Construction 1.1 (Rev. 09)/ZERH V2
- NGBS – Gold
- Indoor Air Plus



What does this look like at the May Building: Architecture



What does this look like at the May Building: MEP

May Building Update 10/15/2024		Site Energy	Note
		kBtu	
Calibrated Existing Base Building		6,354,339	existing building, calibrated against 2022 utility data
ECM-0=	Proposed Design (DD Set)	4,277,297	Based on the Proposed Design DD Set 10/8/24 (Infiltration rate 6ACH)
	energy saving %	33%	
ECM-1=	ECM-0 + change polyiso c.i. to mineral wool	4,285,669	Change polyiso c.i. to mineral wool
	energy saving %	33%	
ECM-2=	ECM-1 + Trane chiller	4,137,554	Trane Chiller efficiency = 16.31 EER in the model
	energy saving %	35%	
ECM-3 =	ECM-1 + Trane combo chiller	4,148,956	Trane Combo Chiller efficiency = 14.92 EER in the model
	energy saving %	35%	
ECM-5=	ECM-2 + 2" insulation on front façade of the addition	4,136,933	Trane chiller + added 2" of exterior insulation to "most " of the front façade of addition
	energy saving %	35%	
ECM-6=	ECM-3 + 2" insulation on front façade of the addition	4,148,435	Trane combo chiller + added 2" of exterior insulation to "most " of the front façade of addition
	energy saving %	35%	
ECM-7=	ECM-5 + Remove insulation behind brick wall ceiling	3,967,967	ECM5 +brick wall 4" spray foam insulation up to 8' below ceiling
	energy saving %	37.6%	
ECM-8=	ECM-6 + Remove insulation behind brick wall ceiling	3,978,998	ECM-6 +brick wall 4" spray foam insulation up to 8' below ceiling
	energy saving %	37.4%	

Thank You!

