



NYSERDA

RetrofitNY

Solution Provider Roundtable

September 26, 2019
NESEA 2019

RetrofitNY: Supporting the Creation of Scalable Retrofit Solutions in NY



- Adapting the Energiesprong model to NYS
- Industry-designed, cost-effective, standardized solutions
- Drive industrialization and reduce costs

A New Model That Enables Scale



All electric, net zero energy buildings at <math><50\%</math> of the cost of initial pilots

Precedent set by Netherlands:

- 4,500 retrofits completed
- 5,000 new construction projects completed



Photo: courtesy of Energiesprong



RetrofitNY Interventions

Upcoming Offerings

- HVAC Challenge PON
- Solution Provider Business Model PON
- Building Envelope Solution System PON
- Pilot Project (Round 2) RFP

EUI Targets for 1-3 Story Buildings

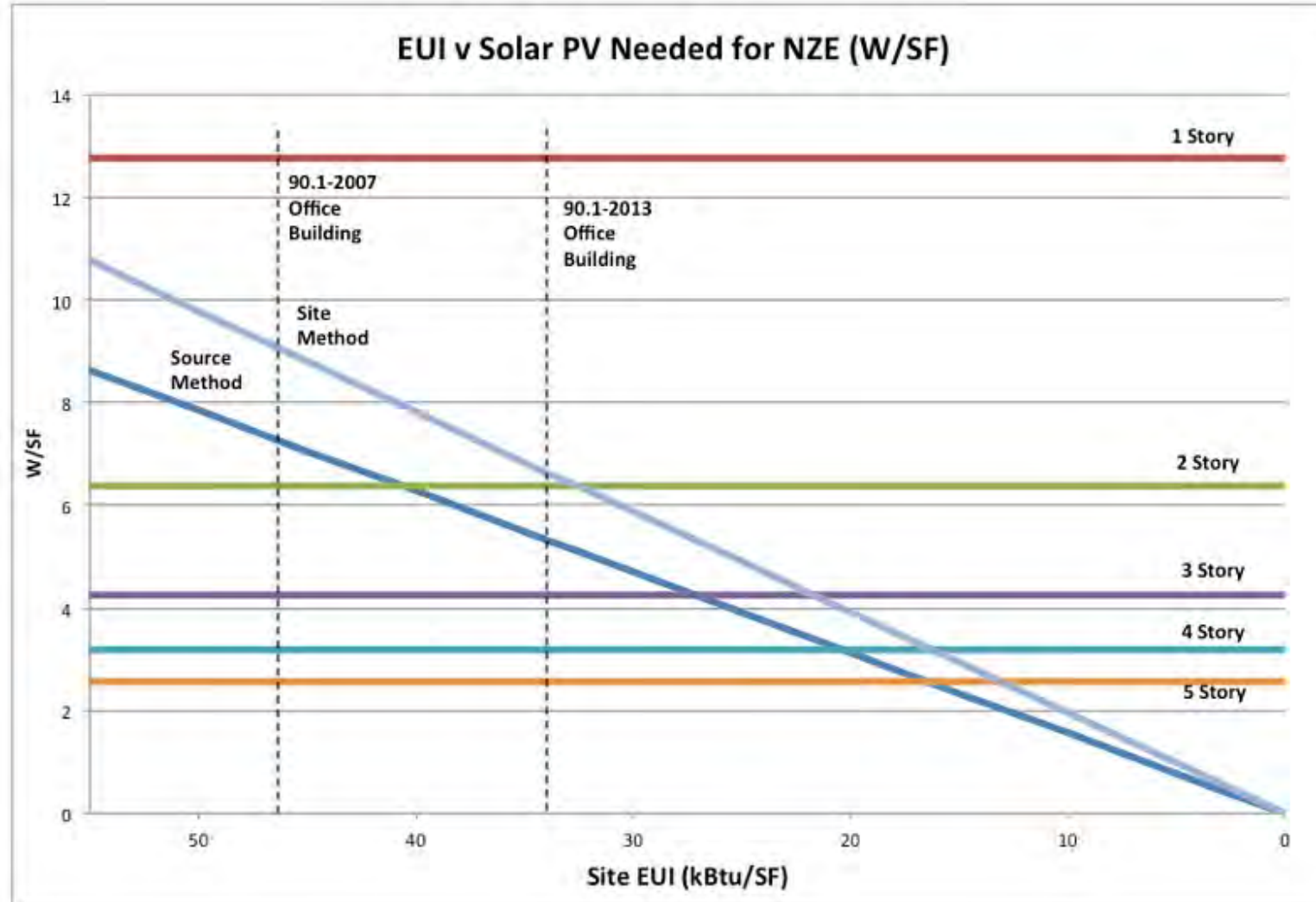


Image: Joshua Radoff

Performance Goals

Mechanical Systems

Table 1 Recommended Performance Targets

Metric	Performance Target
Heating/cooling demand	12 kBtu/ft ² ·yr
Dehumidification	0.012 lbs/lb
Energy recovery ventilations rates	20 CFM/bath and 25 CFM/kitchen exhaust with corresponding supply (min 15cfm/person)
Domestic hot water supply	Per EERE DHW Event Generator ¹
Overall building EUI (1-2 story)	27 kBtu/ft ² ·yr
Overall building EUI (3 story)	21 kBtu/ft ² ·yr

Performance Goals

Envelope Treatment

Table 1 Proposed Façade Efficiencies by Climate Zone

	Zone 4	Zone 5	Zone 6
Panelized envelope R value	R-30	R-35	R-45
Fenestration U values	U-0.16	U-0.16	U-0.16
Roof system R value	R-50	R-60	R-75

Demand Assumptions

Building Requirements

Table 1 EUI & Heating/Cooling Demand Results by Climate Zone

	Zone 4	Zone 5	Zone 6
Heating Degree Days [65°F]	5400	5400 < HDD 65F ≤ 7200	7200 < HDD 65F ≤ 9000
Heating + Cooling Demand [kBtu/ft²-yr]	12	11 – 13	11 - 14
Heating + Cooling EUI [kBtu/ft²-yr]	4	4 - 6	5 - 7
Site EUI (1-2 story) [kBtu/ft²-yr]	26	26 - 29	27.5 – 31.5
Site EUI (3 story) [kBtu/ft²-yr]	19	19-21	20 - 23

Target Pricing

Based on 37 BAU rehab budgets 2017-2019

Findings:

- 45% of budget went to NZE retrofit areas
 - 22% on envelope treatment
 - 23% on mechanical systems

Target price:

- Panelized envelope: \$13,800 per dwelling unit
- Mechanical pod: \$11,300 per dwelling unit

Questions

Component Manufacturers & Suppliers

- Annual volume to reach target pricing?
- Startup costs?
- Ramp up time?
- Integrate products to achieve turnkey NZE retrofit?

Questions

Solution Providers

- Annual volume to reach target pricing?
- Startup costs?
- Ramp up time?
- Integrate product to achieve turnkey NZE retrofit?
- Optimal point of entry?
 - Builders and general contractors?
 - SFR energy auditors and efficiency providers?
 - Component providers with installer networks?
- Pathway to performance guarantee?

Contact Information

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