HPD Sustainability

Building a greener and more affordable NYC
HPD is the largest municipal housing agency in the nation. We:

1. Build **new** affordable housing
2. Preserve **existing** affordable housing
3. Engage neighborhoods in **planning and tenant protection**
1. Policy frameworks to Passive House
2. Passive House feasibility
3. Challenges to financing Passive House
One New York
Integrated approach to promoting the City’s growth, equity, sustainability, and resiliency
One New York: Sustainability goals

- Greenhouse gas emissions
- Zero Waste
- Air Quality
- Brownfields
- Water Management
- Parks & Natural Resources
One City Built to Last

Transforming New York City’s buildings for a low-carbon future


Local Law 66-2014

- 30% reduction by 2030
- 80% reduction by 2050

A LOCAL LAW

To amend the administrative code of the city of New York, in relation to reducing greenhouse gases by eighty percent by two thousand fifty.

Be it enacted by the Council as follows:

Section 1. Legislative findings and intent. The Council finds that the reduction of greenhouse gases that contribute to global warming is critical to the current and future prosperity of New York City. The Council further finds that in view of the rapid progress of climate change events and indicators and in order to increase the effectiveness of New York City measures intended to prepare for and alter the course of adverse climate change impacts on New York City’s critical infrastructure and vulnerable citizens, and consistent with the spirit of PlaNYC 2030 and the New York City Climate Protection Act, Local Law 22 of 2008, the reduction of emissions citywide should be increased from a thirty percent reduction in citywide emissions by calendar year 2030, relative to such emissions for the base year, to an eighty percent reduction in citywide greenhouse gas emissions relative to such emissions for the base year by calendar year 2050.

Therefore, the Council finds that it is in the best interests of the City to provide for an increase in future reductions in citywide greenhouse gas emissions.

Adopted: December/2014
New York City greenhouse gas emissions by sector

- **Buildings**: 73%
- **Transportation**: 21%
- **Waste**: 5%

80x50 Initiative
Transforming New York City’s buildings

11.7% reduction between 2005-2014

→ 11.7% reduction between 2005-2014
11.7% 83%
2005 Baseline

GHG MMTCO₂

Transforming New York City’s buildings

2005 2014

PlaNYC 30x30

83%

44.5

Million metric tons CO₂ equivalent

Buildings 58%
Power 22%
Transportation 18%
Solid Waste 2%

80 × 50
200,000 affordable units over 10 years

Housing New York
A Five-Borough, Ten-Year Plan

52,939 units*

2016

*includes all units counted during FY 2014 – June 30 2016
Passive House: pathway to 80 x 50

“Passive House is a transformative notion and we're going to be leaders showing this can be done...”
- Bill de Blasio, NYC Mayor
Phasing HPD’s low energy building portfolio

Phase 1

Feasibility:
Assess opportunities to demonstrate in new construction and preservation

Phase 2

Incentives:
Provide incentives to encourage Passive House development

Phase 3

Mandatory Requirements:
Require Passive House for all new construction
Underwriting challenges

1. Can the NYC market consistently deliver passive house construction?
2. What is the price point of Passive House construction?
3. Are the savings real and sustainable?
4. Are there long term concerns with maintenance & operations?

- Convincing lenders on Passive House
- HPD subsidy is gap financing
- Over-subsidizing to the extent savings not recognized
1. Can the NYC market consistently deliver Passive House construction?

SustaiNYC: Design Objectives

- Cost competitive with deep affordability
- Compliance with HPD design objectives
- Incorporates Community vision
2. What is the price point of Passive House construction?
2. What is the price point of Passive House construction?

- Construction costs for current HPD Passive House projects FY2016:

<table>
<thead>
<tr>
<th>Project</th>
<th>Hard Costs ($/ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project A</td>
<td>30 Units</td>
</tr>
<tr>
<td>Project B</td>
<td>154 Units</td>
</tr>
<tr>
<td>Project C</td>
<td>174 Units</td>
</tr>
<tr>
<td>Project D</td>
<td>318 Units</td>
</tr>
<tr>
<td>Project E</td>
<td>120 Units</td>
</tr>
</tbody>
</table>

- Underwriting savings key to financing Passive House at scale
3. Are the savings real and sustainable?

- Performance data at scale
  - LL84
  - HPD benchmarking initiative
NYC’s Passive House portfolio

- 425 Grand Concourse
- Knickerbocker Commons
- Beach Green North
- Hanas Corona Senior

Private Sites
- Certified project
- Built to Passive House standards
- HPD Financed
- Completed project
- Anticipated project
4. Are there valid long term concerns with maintenance & operations?

- Durability
  - EIFS
  - Cement panels
- Maintenance of ERVs
- Durability of air barriers over time
SustaiNYC: Passive House Goals

1. Test feasibility in large scale mixed use developments
2. Assess development cost of Passive House in NYC
3. Test local market
4. Assist in developing a more robust local market