

Labex Futurs Urbains – GT Ville et Energie, 6 avril 2018

Le rôle des mini-réseaux dans les réponses territoriales aux enjeux de la transition énergétique.

Les micro-réseaux électriques à New-York : inverser la hiérarchie du système électrique.

Fanny Lopez, Éavt Marne-la-Vallée, LIAT - ENSA Paris-Malaquais



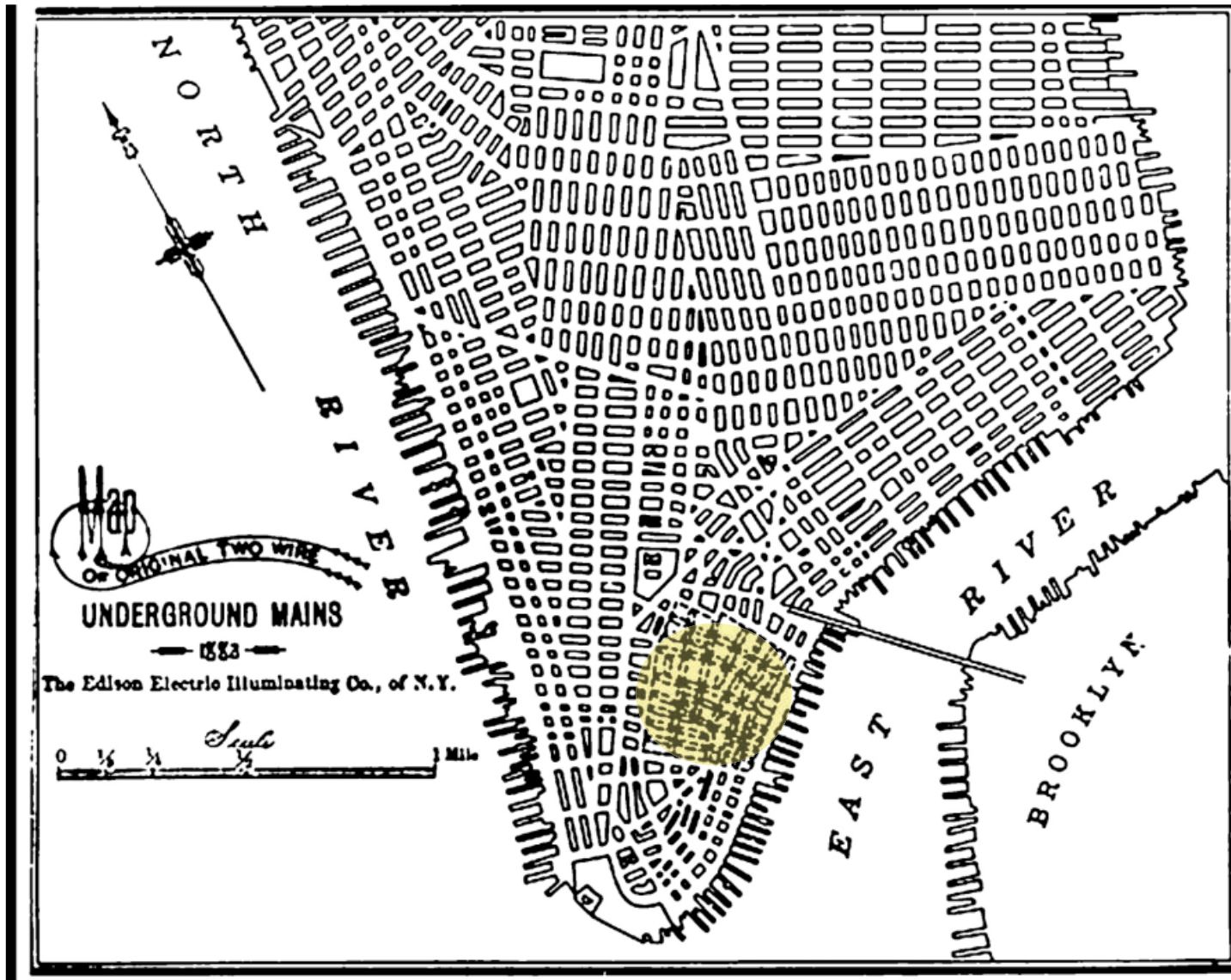
New York
The city and the storm
cover of New York Magazine



Main points addressed in this presentation


- 1. New York city backup power : from nano- to microgrids**
- 2. The Microgrid Initiative Program, 2012**
- 3. A difficult implementation process : changing models**

Historic presence of microgrids in New York



Pearl street power station (power and lighting), 1882, Edison Company.
The area served by the station is coloured in yellow in the map here-above.

NYSERDA, New York microgrid prize



ServicesNewsGovernmentLocal

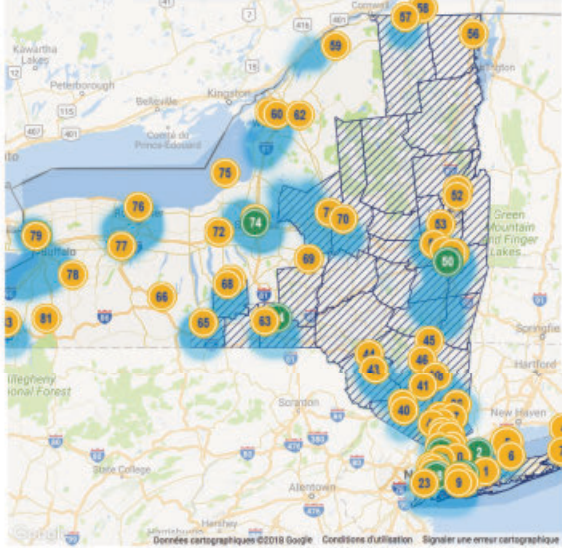
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NY PrizeCompetition StructureWho Is EligibleResources for ApplicantsOpportunity Zones MapFeasibility StudiesJoin Our Email List

A PROGRAM OF NYSDERDA

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NY Prize Opportunity Zones



Awarded Feasibility Studies

NY Prize is a three-stage competition. During Stage 1, competitively selected communities receive funding to conduct engineering assessments that evaluate the feasibility of installing and operating a community microgrid at a proposed site in New York State. Stage 1 award winners are shown in numbered yellow dots, and are detailed by number per region in the list of All Awarded Projects.

[View All Stage 2 Awarded Projects \(PDF\)](#)
[View All Stage 1 Awarded Projects \(PDF\)](#)
[View All Stage 1 Feasibility Studies](#)
[View Evaluation of Stage 1 Feasibility Assessments \(PDF\)](#)

Select a Region

Select a region to see NY Prize Opportunity Zones. Drill down into each zone to find potential partners and contacts for your community microgrid project.*

The target areas in the NY Prize Opportunity Zone Map show approximate geographic areas that have been identified by the local electric distribution companies in New York where microgrids may reduce utility system constraints, and defer expensive infrastructure investment costs. [MORE](#)


[Resources for Applicants](#)
[Read About Microgrids](#)

Legend

- Opportunity Zones
- Presidentially Declared Storm Affected Counties
- Stage 1 Awarded Feasibility Studies
- Stage 1 and Stage 2 Awarded Feasibility Studies

New York State Regions

Capital Region	New York City
Central New York	Mohawk Valley
Finger Lakes	North Country

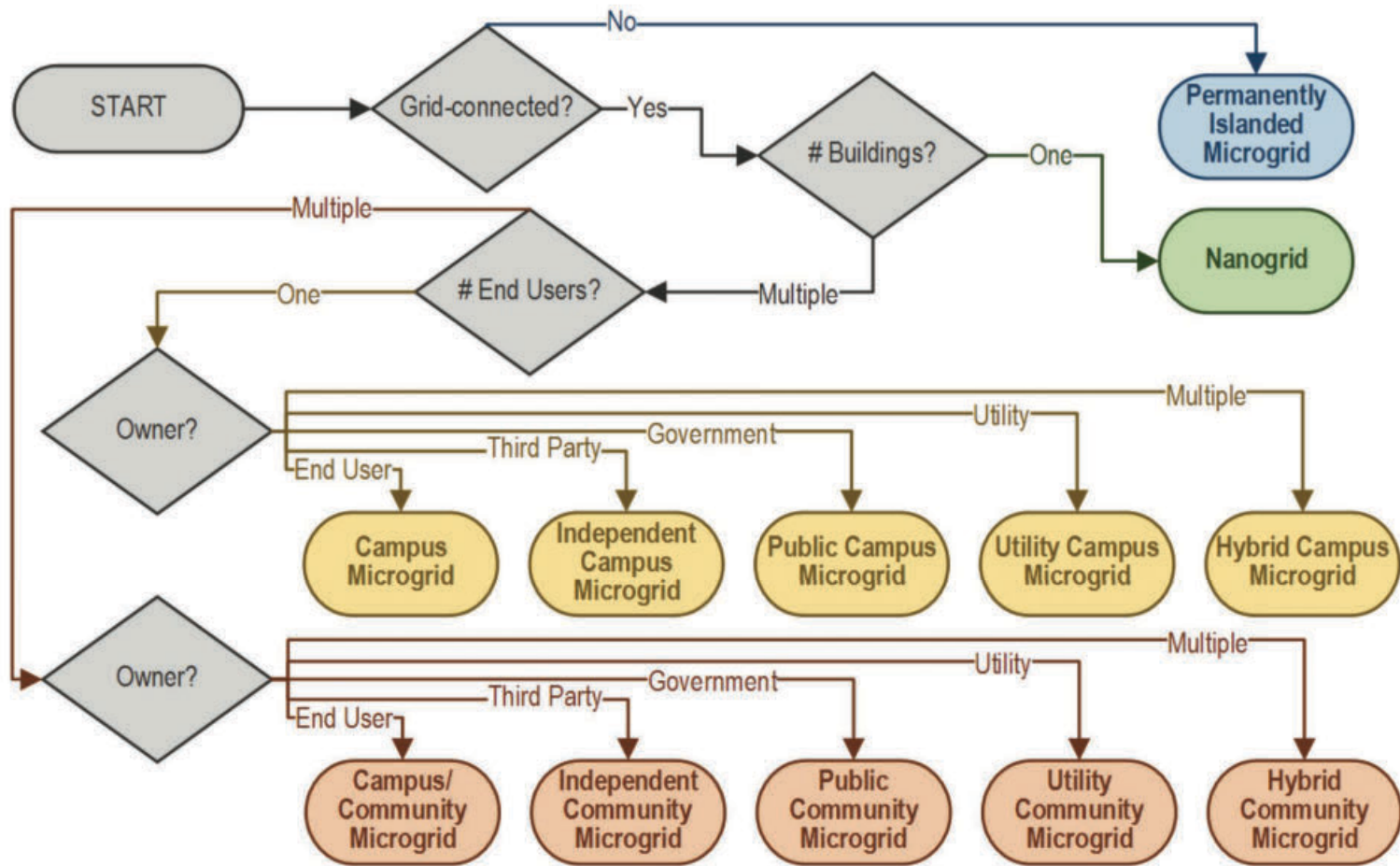
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Are eligible:

local government bodies, community organizations, nonprofit organization, research institutions, investor owned utilities, developers, technology vendors, engineering firms, municipal utilities, financial institutions, ...

Requirements:

- . serve several clients,
- . provide proof of community involvement
- . cooperate with an energy supplier,
- . make use of renewable energy,
- . provide proof of short-term autonomy...



Source: Navigant

Other microgrid projects

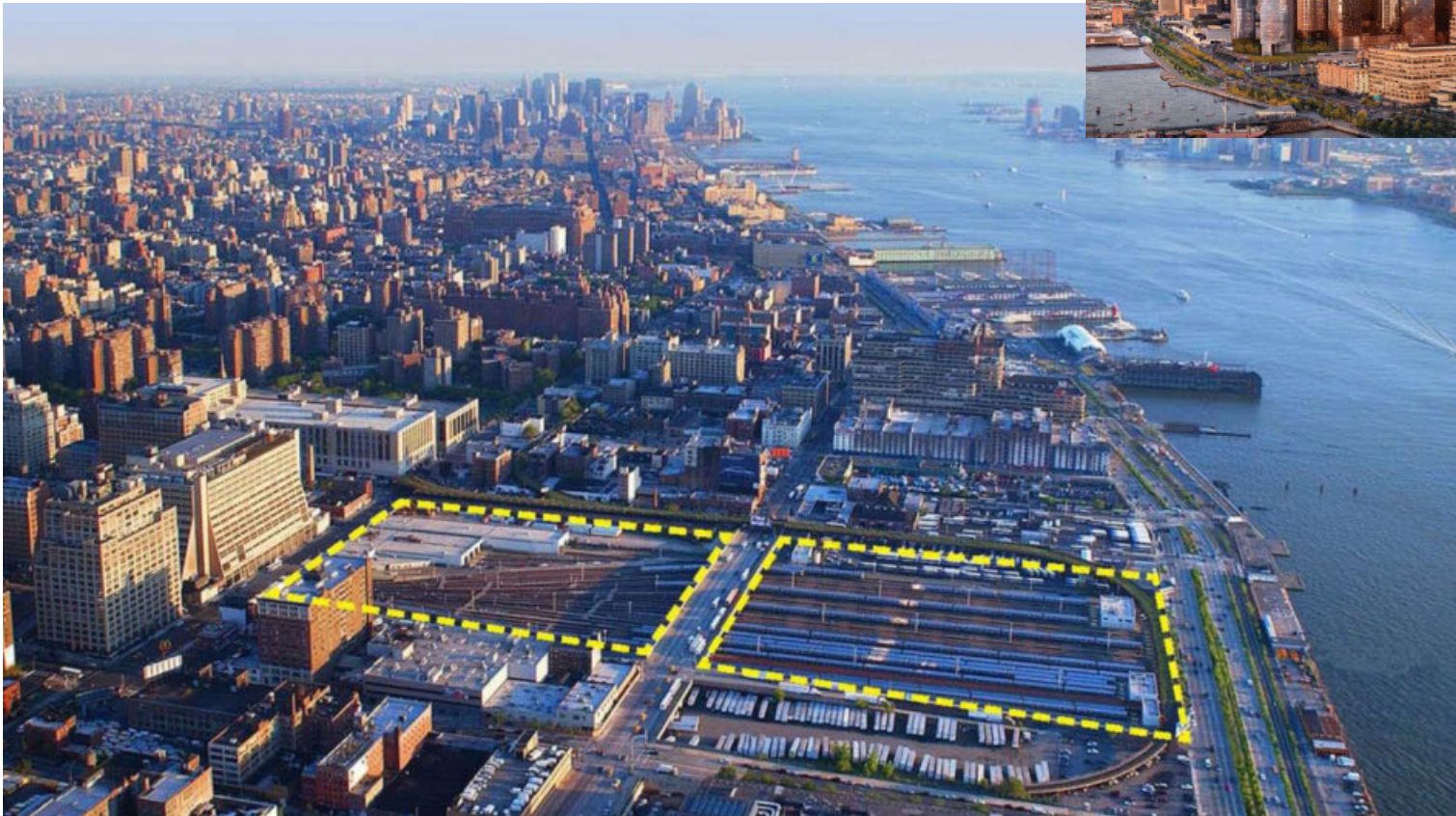
**Co-op City (Cooperative City),
located in Baychester, northeast of Bronx, New York**



A microgrid serving several residential towers, police stations, commercial units, schools...
The initial microgrid (heating only) was built in the 1960, and later transformed (chp).
In 2005, an urban renewal project was launched.

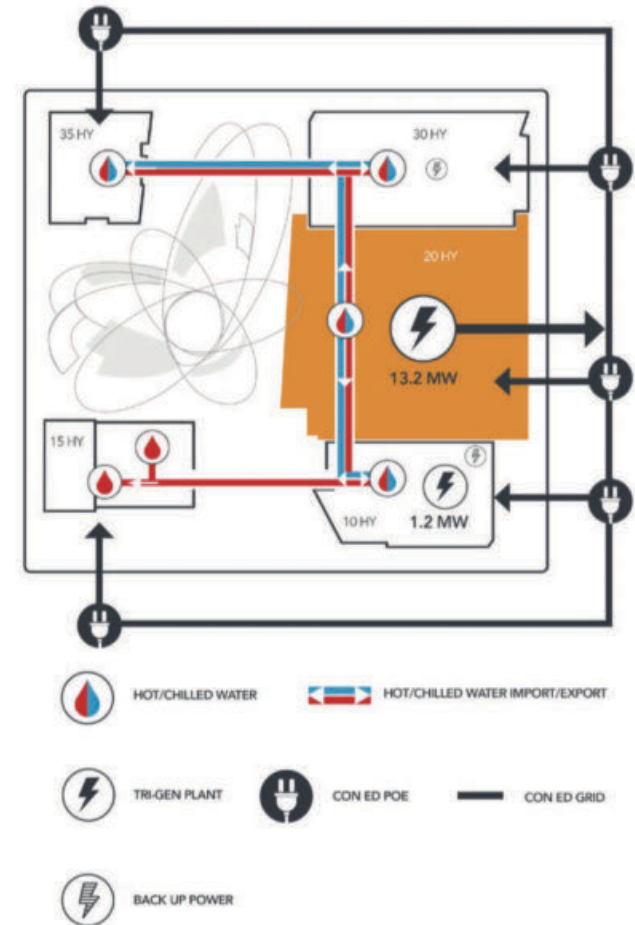
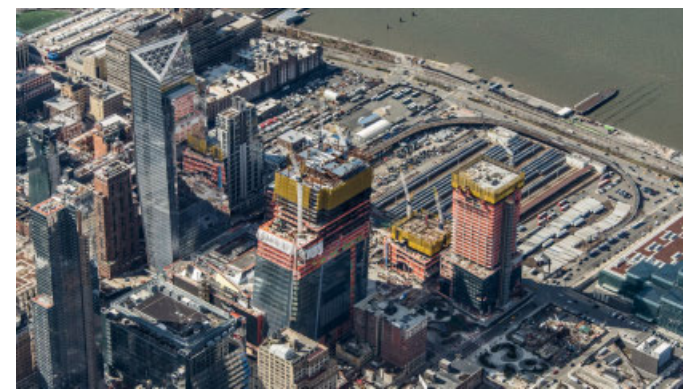
Other microgrid projects

Hudson Yards,
West Side Manhattan



A private developer's initiative to build a microgrid serving 5000 homes, several commercial units, hotels, a school...
The project is currently underway.

Hudson Yards, Master Plan of Hudson Yards Left and Tri-generation System



Brooklyn and Queens Zone Map



ZIP CODES

- **Crown Heights**
11203, 11207, 11212, 11213, 11216, 11225, 11233, 11236
- **Ridgewood**
11205, 11206, 11207, 11211, 11213, 11216, 11221, 11222, 11233, 11237
- **Richmond Hill**
11207, 11208, 11239, 11256, 11414, 11415, 11416, 11417, 11418, 11419, 11420, 11421, 11430, 11693

Targeted neighborhoods cover north central and eastern Brooklyn, including parts of Greenpoint, East Williamsburg, Bushwick, Bedford-Stuyvesant, Crown Heights, East Flatbush, Brownsville, and East New York, and southwestern Queens neighborhoods, including parts of Richmond Hill, Howard Beach, Broad Channel, Ozone Park, South Ozone Park, Woodhaven, and Kew Gardens.

- Substation upgrade deferment = \$1.2 billion
- PSC approved \$200 million Non-Wires Alternative (NWA)
- Program cost allowed in rate base
- Reverse auction drove market-based response > \$1992/kW - 2 year program
- Drives better system utilization
- Framework for future market-based **Non-Wire Solutions**

Other microgrid projects

Marcus Garvey Village Brooklyn/Queens Demand Management Program (BQDM)



A microgrid serving 625 homes (solar PV, storage and a fuel cell).

The project is currently underway, carried out by Demand Energy, in cooperation with L+M Development Partners and Con Edison.