



Building Bridges to Net Zero



Con Edison's Energy Efficiency in Multifamily Buildings

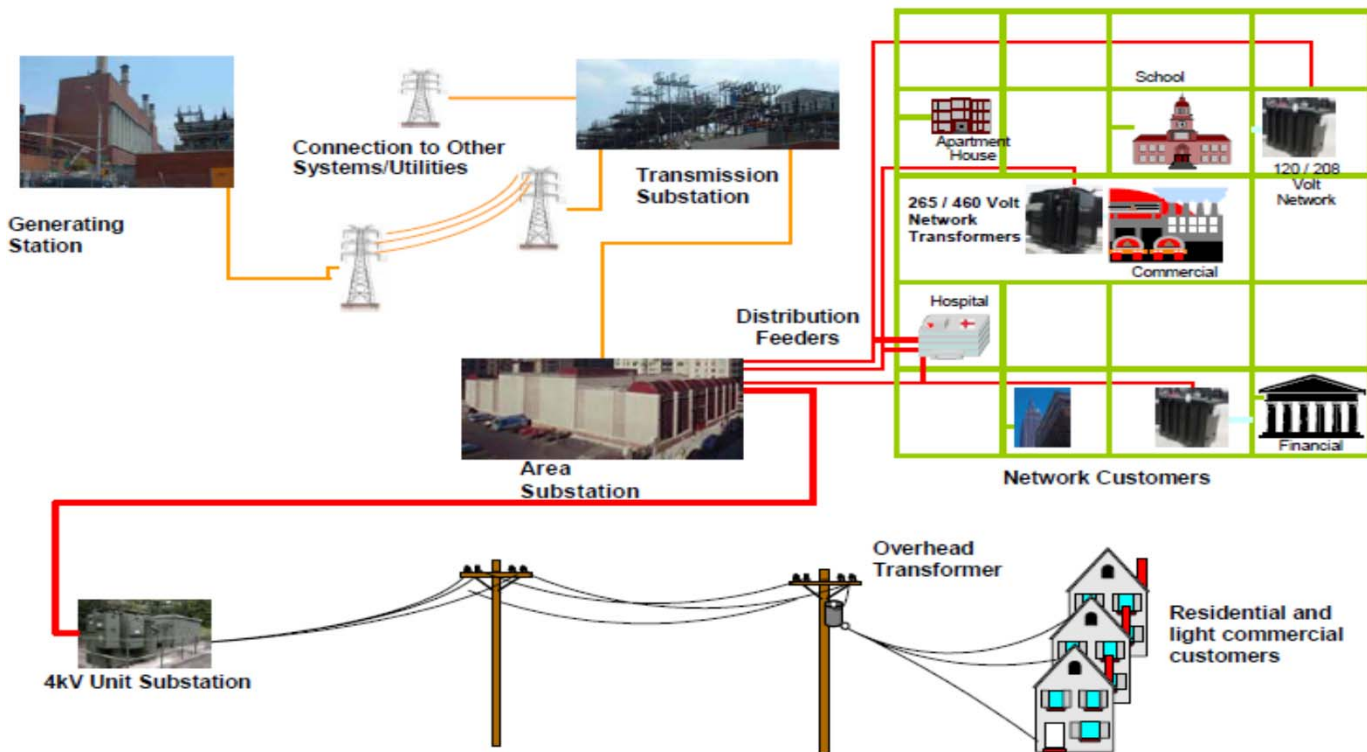
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AGENDA

- Typical Power Delivery
- Multi-Metered and Master-Metered Buildings
- Multifamily Energy Efficiency For All Types of Metered Buildings
- Multifamily Energy Efficiency Program Incentives
- Energy Efficiency and Demand Management Terminology
- Brooklyn Queens Demand Management (BQDM) Area
- BQDM Multifamily Energy Efficiency Update
- Combined Heat and Power (CHP)
- Distributed Generation (DG)
- Standby Generators and Demand Reduction



Typical Power Delivery



Multi-Metered and Master-Metered Buildings

- **Multi-metered buildings** have common and individual meters, multiple accounts
- **Master-metered buildings** have one meter serving the whole building, common and tenant spaces, typical one account
- Typically found in larger buildings, co-ops
- Option to install separate meters for each individual apartment
- Regardless of the number of units and meters energy efficiency should be part of the design
- Typically demand of larger buildings doubles in the summer because of cooling



Multifamily Energy Efficiency For All Types Of Metered Buildings

- Energy Efficiency in Multifamily buildings should address **heating, water and electric**
- **Install energy efficient** boilers, summer use boilers, boiler controls, storage tanks for water heating
- **Address water leaks** and install low flow faucets, toilet and shower heads
- Replace **common area** (indoor/outdoor) **and in-unit** (apartment) lighting from high energy consumption lighting **to CFL/LED lighting**
- These measures **should be exercised** for any size of Multifamily Building



Multifamily Energy Efficiency Program Incentives

- **Incentives for 5-75** unit residential buildings with free installation of certain energy savings items (Common areas in BQDM or in unit lighting, faucet aerators, showerheads)
- **Larger than 75 units** qualify for the commercial-industrial energy efficiency program – provides an incentive to reduce energy consumption
- **Multifamily Low Income Program** – Provides NYC and Westchester housing authorities with incentives in heating, weatherization and other gas energy efficiency measures



Energy Efficiency and Demand Management Terminology

- **Traditional Utility Approach**
 - Build infrastructure to meet Peak Demand
- **Energy Efficiency**
 - Programs to promote Energy Savings (kWh)
- **Demand Management**
 - Programs to reduce Demand (kW)
- **Demand Response**
 - Temporarily reduce electric usage during Peak Demand
- **Targeted Demand Management**
 - Utilizes customer sided solutions, including all EE & DSM approaches, to defer capital infrastructure investments in targeted networks.



Brooklyn Queens Demand Management Area

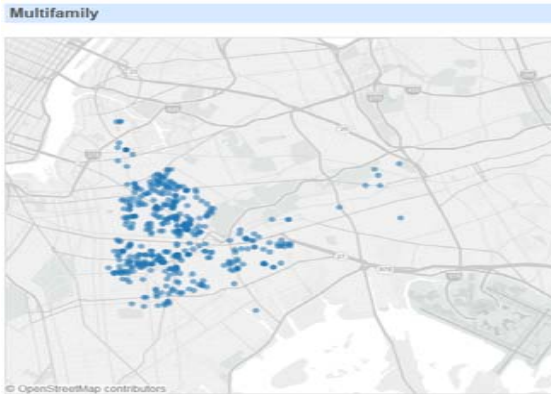
Brooklyn and Queens Zone Map



- ELECTRIC NETWORKS AND 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

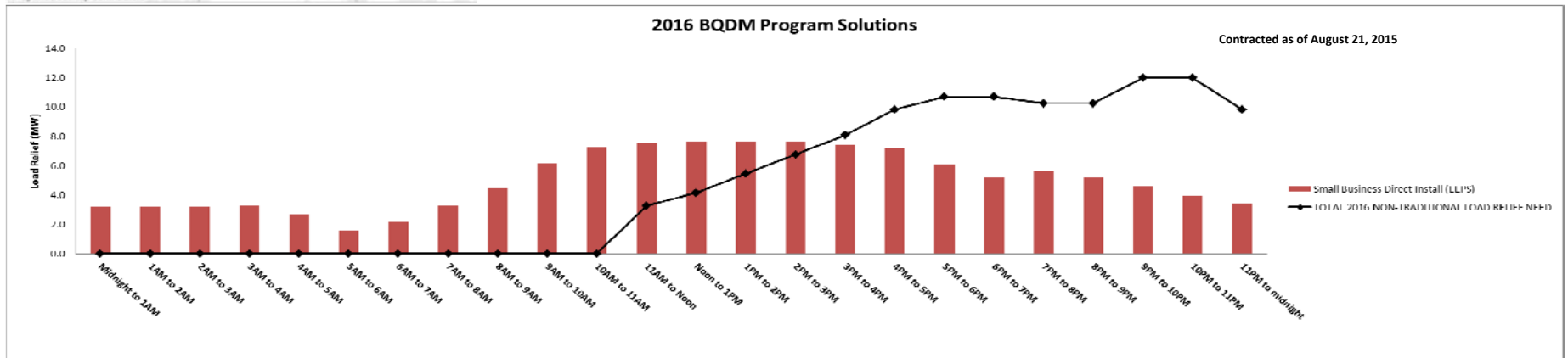


BQDM Multifamily Energy Efficiency Update



Status*	Customer Count	Demand Reduction (MW)
Sold	4,916	2.5
Installed	3,977	2.0

* Demand Reduction refers to the anticipated reduction at the peak hour which is hour ending 10 PM.



Combined Heat and Power - CHP

- In larger buildings (depending on usage) it may be feasible to evaluate the building for a CHP, DG or standby installation
- Typical 200 units and above with a master meter
- Air conditioning may account for double the demand and use in the summer
- For CHP - Review of electrical and thermal usage
- Identify the Building's base load thermal usage
- Size the CHP unit for the optimal heat recovery while offsetting demand and electrical usage
- Typical CHP units are inductive – work in parallel with the utility but recent technological advances have allowed the same units to be black start capable



Distributed Generation - DG

- For DG - Review of electrical usage
- Identify the Building's electrical base load
- Size the DG unit for the optimal demand and electrical usage reduction, common areas?
- Inductive/Grid parallel units may be more popular and make economic sense for installation
- Some units offer a hybrid installation or and allow the same unit or a part of the module to be black start capable



Standby Generators and Demand Reduction

- Standby - emergency power
- Can operate during loss of power or when asked to perform
- Properly permitted generators
- Participate in Con Edison's Demand Reduction Enablement and NYISO programs
- Earn incentives while having standby power for common areas, elevators, having power for the heating system to operate



THANK YOU!



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MATTERS**

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