

Q2 New York City Stakeholder Meeting

Building & Grid Modernization

May 14th, 2020



Introduction: Trane Team



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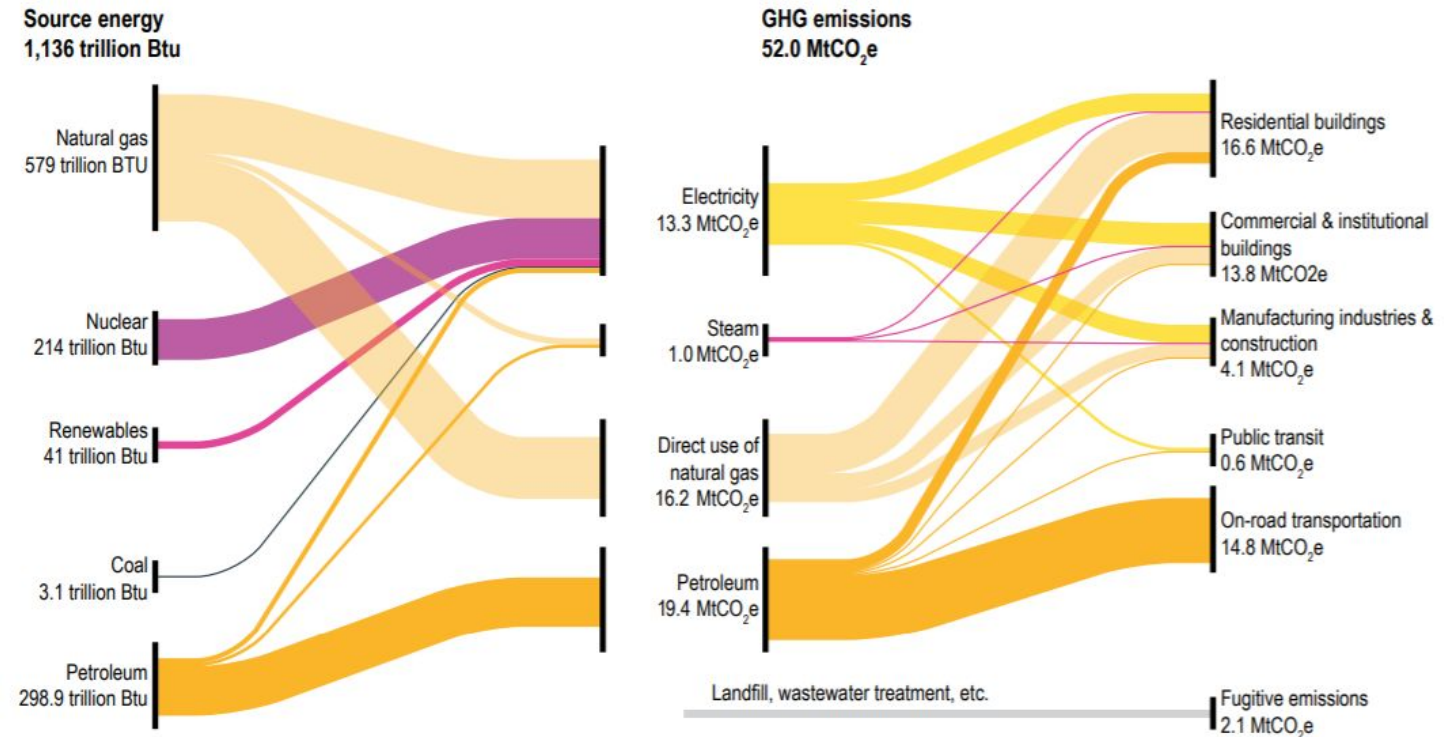
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New York City 80x50 Initiative

- **Reduce 80% of Green House Gas Emissions by 2050**

- Buildings generate 68% of New York City's Greenhouse gas emissions.
- Local Law 97 enacted to combat green house gas emissions in all buildings over 25,000 sq. ft.
- Focus on upgrading building infrastructure to reduce carbon footprint of buildings.
- Expansion of renewables to enhance resiliency in the City.
- All while addressing an expected increase in emissions from the deactivation of nuclear power and resulting increase in fossil-fuel to address the supply gap.



Source: NYC Mayor's Office



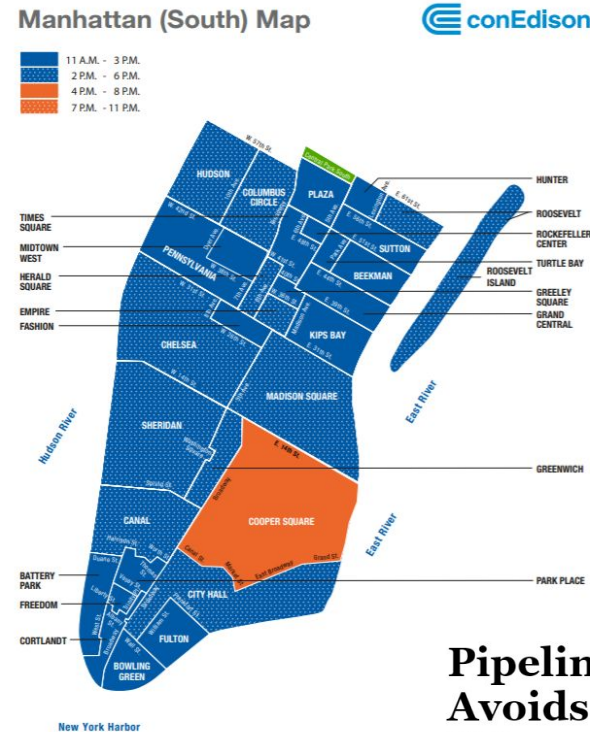
Challenge: Converting Buildings and the Grid for Electrification

• In Buildings

- Aging infrastructure presents limited upgrade options at a reasonable capital cost.
- NYC Building operator code prohibits the electrification of many steam & gas fueled buildings.

• Utility Grid

- Without additional substations, the electrical grid is constrained from supporting the electrification of buildings.
- Ironically, legislative mandates to limit new gas pipelines are pushing owners to consider alternative heating solutions.
- Thus, without significant investments in the grid, owners are handcuffed by this juxtaposition.



Pipeline-Starved New York City Avoids Natural Gas Shortages this Winter, but May Face Problems in the Future

Ben Lieberman • April 2, 2020



New York City made it through another winter without any serious natural gas shortages, but it may not be so lucky next year.

Alignment of NYC Incentives & Codes

- **Incentive Programs**

- Focus on consumption based reduction ignores the strain of demand on the utility grid & impedes future electrification.
- Fuel switching from steam or gas to electric is not currently incentivized.

- **Code**

- Building Operator Code constrains steam and gas facilities from converting to high efficiency electric systems.
- 24 hour operating facilities face major operating cost challenges with electrification of cooling and/or heating.



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Regarding Building and Grid Modernization & Decarbonization of NYC,
we must first address:

**Misalignment of Building Operator Code and Incentive Programs with
the Electrification Effort.**

