

Data & the Evolving Energy Customer

Kristin Barbato – March 2018

Advanced Energy Conference – The Digital Utility

My Background

Customer energy services and markets background in public, private, utility, and academic sectors

- Adjunct Professor – Energy Management for Portfolios
- Former utility executive – Edison Energy, NYPA, Con Edison
- Chief Energy Management Officer of New York City
- Independent consultant – energy markets & services advisory

Customers' needs are changing

- Traditionally, subject to utility capability, information
- Drivers including technology innovation and customer choice
- Encroachment of new services from non-monopoly providers changing the landscape

In short, customers demand energy information and the digital world is evolving to meet it.

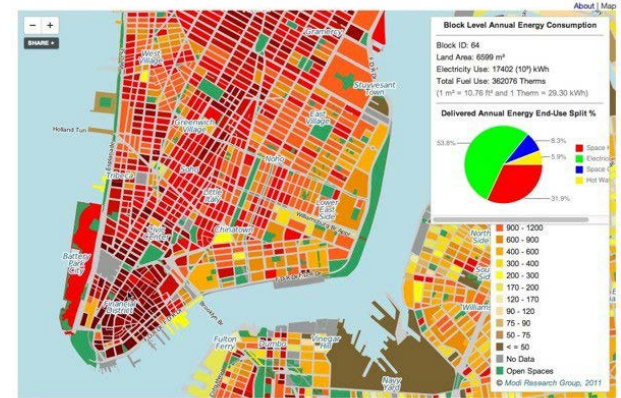


New York City's Energy Data

Largest municipal energy operations in US

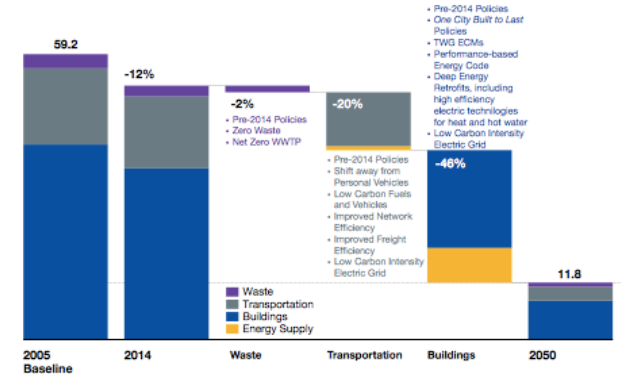
- 4000+ municipal facilities
- \$800M annual utility bill
- Nearly 10% of total NYC energy consumption
- Varied operations including:
 - Fire houses
 - Police precincts
 - Schools
 - Waste water treatment plants
 - Hospitals
 - Housing
 - Garages
 - Office buildings

Total Annual Building Energy Consumption for New York City



Data Source: Spatial distribution of urban building energy consumption by end use
 B. Howard, L. Rashall, J. Thompson, S. Hammer, J. Dickinson, V. Modi

A Roadmap to 80 x 50, in Million Metric Tons of Carbon Dioxide Equivalent (MtCO₂e)



*All percent reductions are relative to the 2005 citywide baseline

Aggregated Customer Data Views

Trends in energy usage more clearly visible

- Data aggregated for market level decisions
- Portfolio level management is critical for large entities
- Streamlining programs and solutions for operational trends

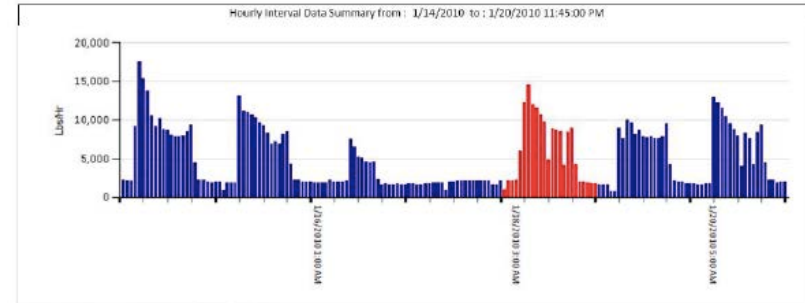
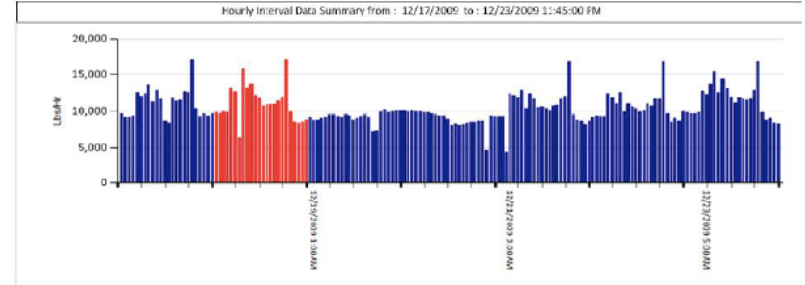


NYPAs Energy Manager – customer usage data

Customer site data tells a story

What can you do with better information?

- Improved operational efficiency and cost savings
- Relationship between capital investment and preventative maintenance
- Replicability across like operations
- Investor confidence and client engagement

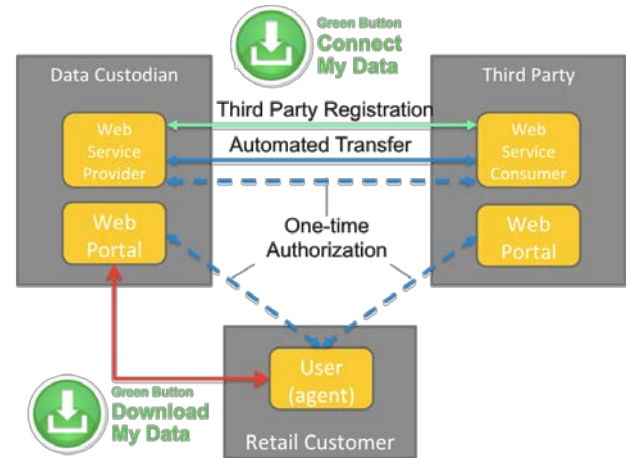


Utility data: commoditized

What happens if utility customer data becomes open?

- Green Button Standard
- Improved models for on-site efficiency
- Pricing projections beyond day-ahead or zones

Green Button for Customer Usage Data



Data access enables market transformation

What's next in customer energy data access?

- Smart predictive maintenance
- Refined levels of energy consumption and operational decisions
- Links to air and water quality
- Storage and renewables change the instantaneous nature of on-demand resources
- No more last mile requirements?



Thank you!

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