

Are we measuring building performance correctly to create a low carbon, affordable city?

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**Sidewalk Labs**



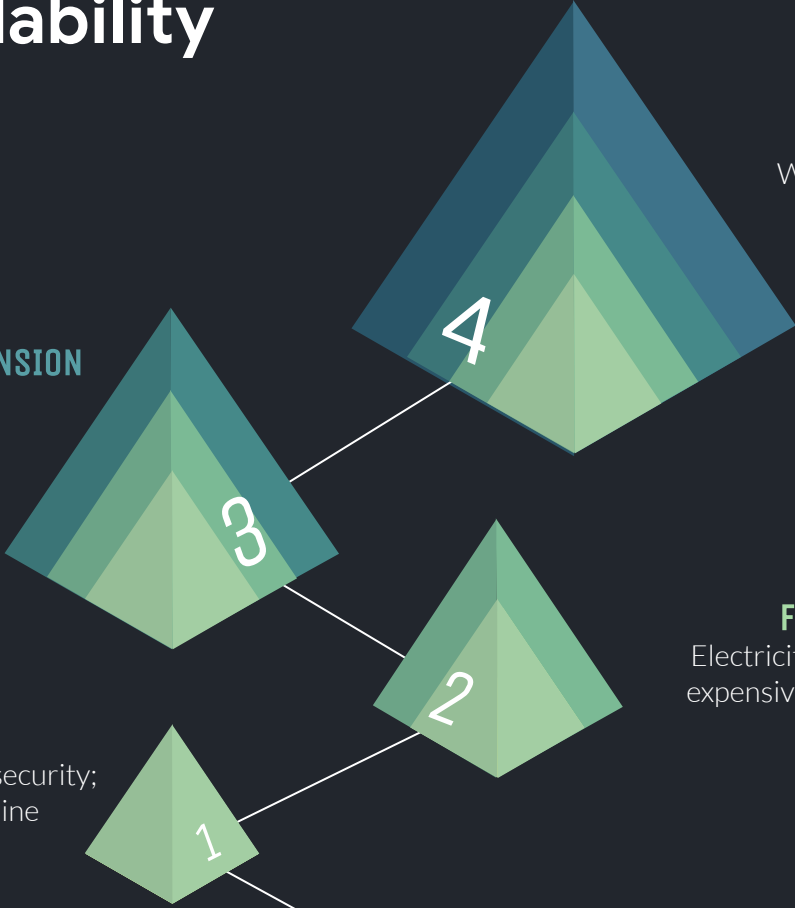
# In addressing climate, New York has a competing problem: **Affordability**

## **AFFORDABILITY**

30% of Americans report energy insecurity; NYSERDA studies indicate NY is in line

## **INFRASTRUCTURE EXPANSION**

To meet **2X** to **3X** higher peak demand



**GREENING THE GRID**  
With renewables being intermittent and asynchronous, grid complexity (and expense) increases

**FUEL SWITCHING**  
Electricity can be **5x** more expensive than natural gas

# We can manage the cost burden of decarbonization by engaging the **Demand side**



PEAK DEMAND



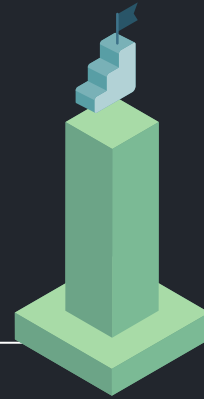
REDUCING PEAK DEMAND



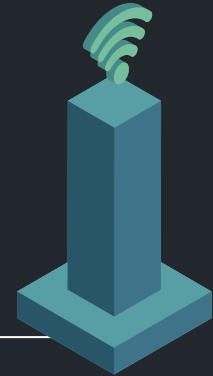
SHAPING LOAD TO TRACK  
RENEWABLE SUPPLY

# Buildings can shape their load and flatten demand peaks

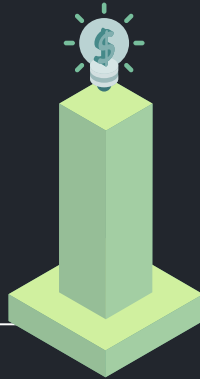
**Batteries and thermal storage** to utilize renewable and low carbon energy



**Predictive HVAC controls** that anticipate occupancy and weather



**Enhanced zone control** to shut unoccupied spaces down



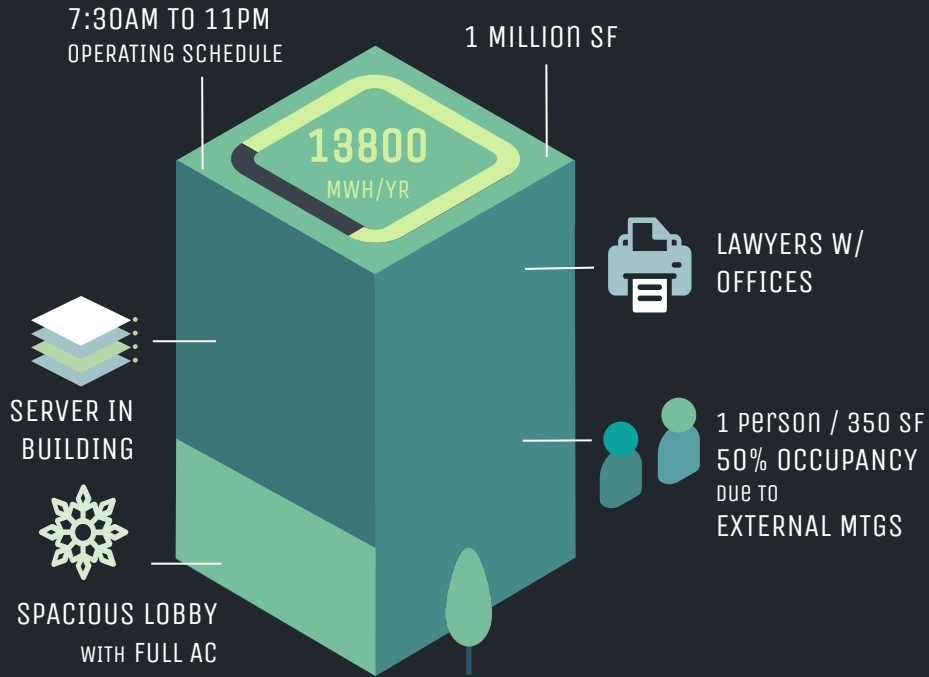
## The Opportunity:

**200 GW** of US load (20% of peak) could be reduced with **cost-effective load-flexibility potential** that would defer **>\$15 billion** in generation, ancillary services, transmission, and distribution cost through 2030. - Brattle Group

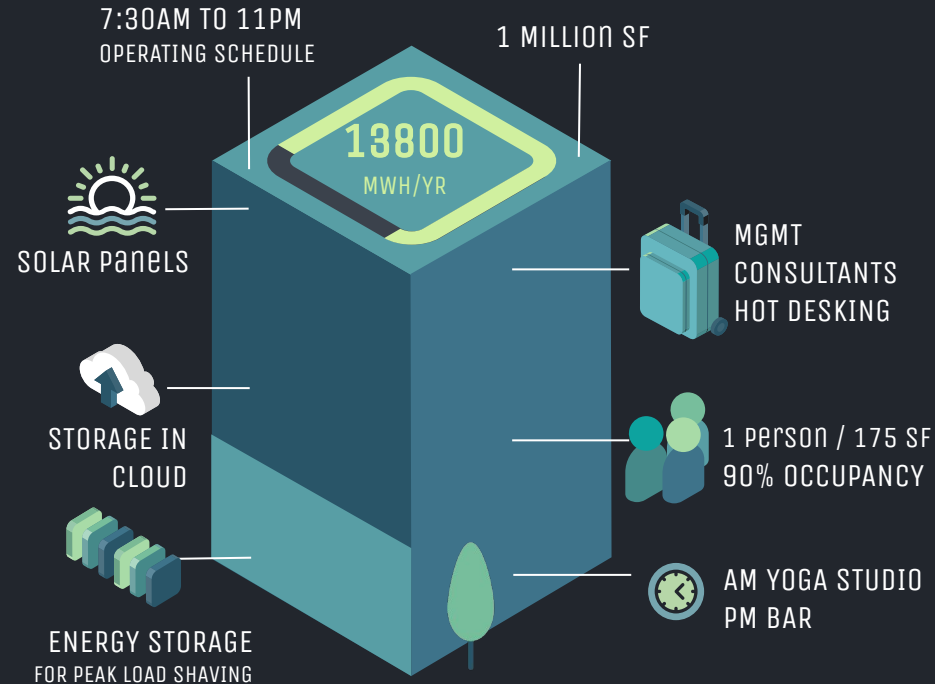


# New York is driving the demand side with benchmarking, grades, and Local Law 97, right?

## BUILDING 1



## BUILDING 2



New York is driving the demand side with benchmarking, grades, and Local Law 97, right?

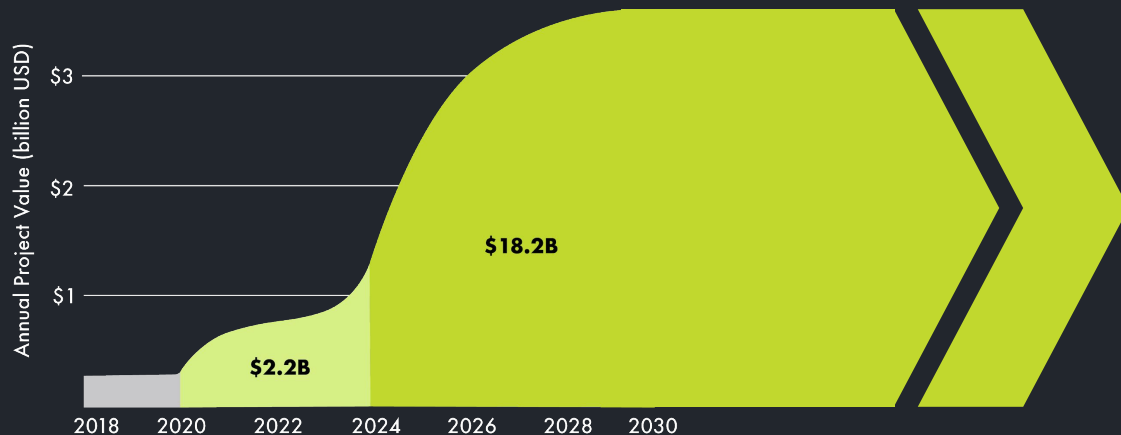
**WRONG**

**Existing benchmarking programs and building performance standards like Energy Star & LL97 evaluate these two buildings EQUIVALENTLY**

Regarding IoT, Technology and Innovation, to achieve NYC's 2050 Carbon & Equity goals, the most critical obstacle to overcome is...

**...outdated building performance methodologies that fail to promote grid-responsive, space & energy efficient buildings.**

Urban Green Council estimates that Local Law 97 will stimulate < **\$20 Billion** of investment in building performance upgrades by 2030.



Can we evolve building performance metrics & methodologies to target this investment into building features that support affordable decarbonization?