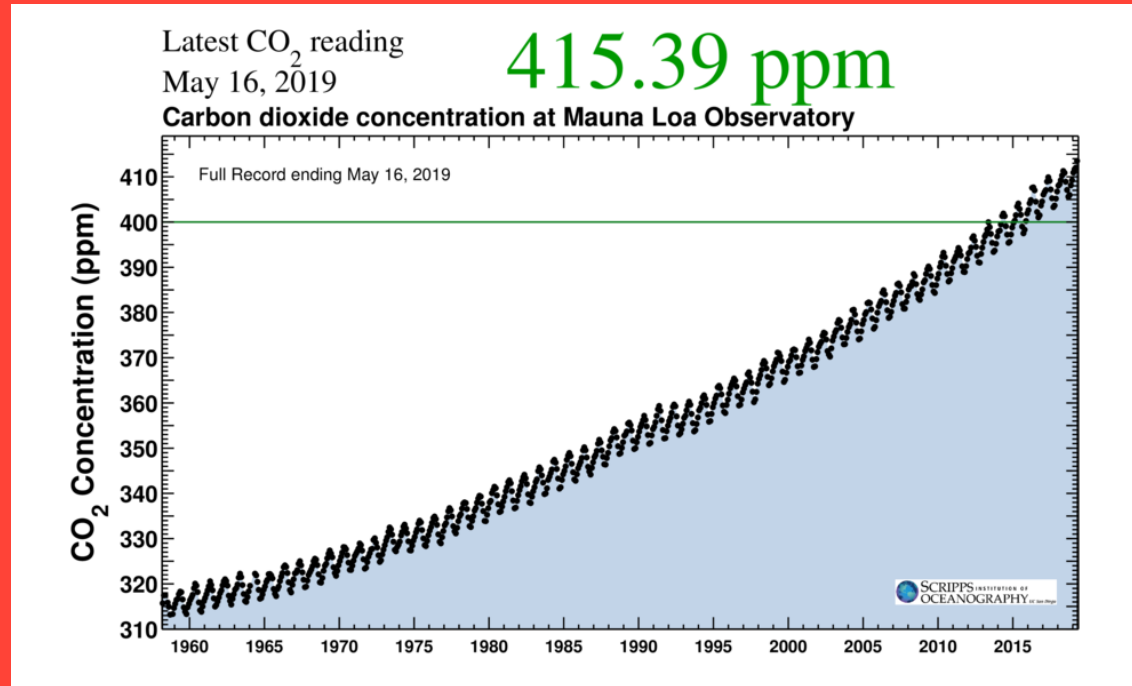


Usable Data is Vital for Building Decarbonization



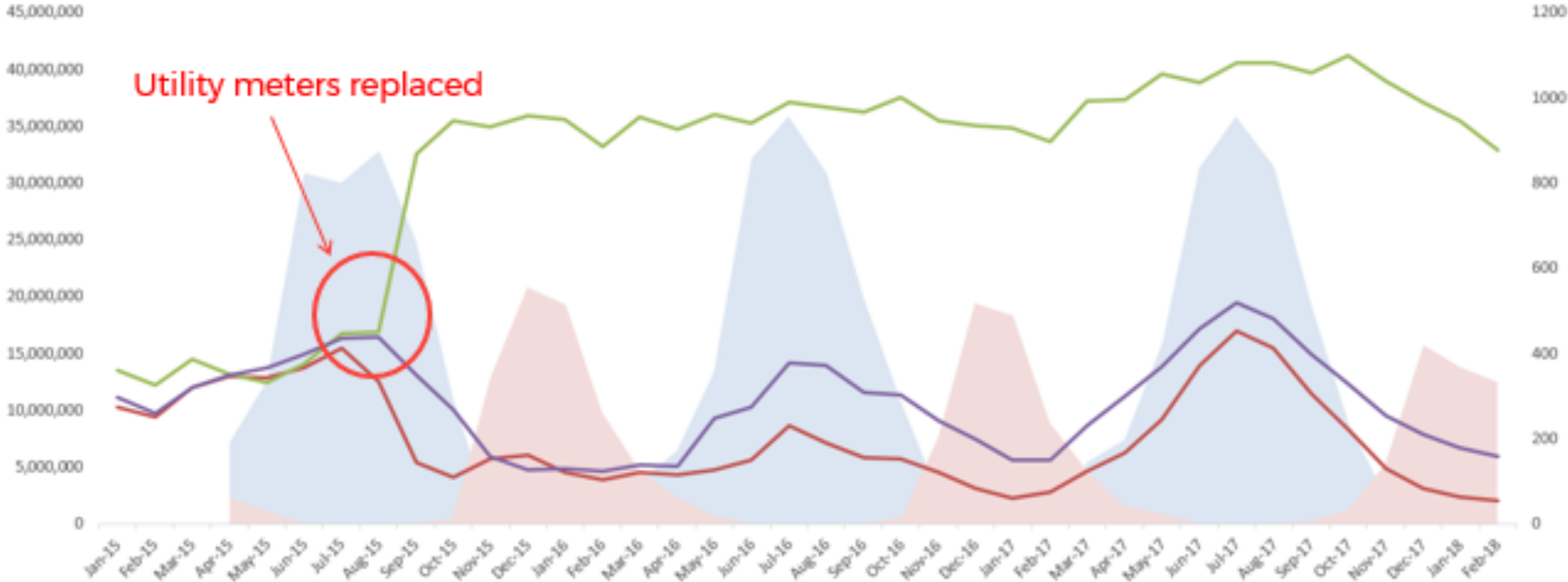
Jenny Carney
Sustainability, Energy & Climate Change
jenny.carney@wsp.com
312.391.2041



Current State:

Incomplete and Inaccurate Building Performance & Attribute Data is Ubiquitous

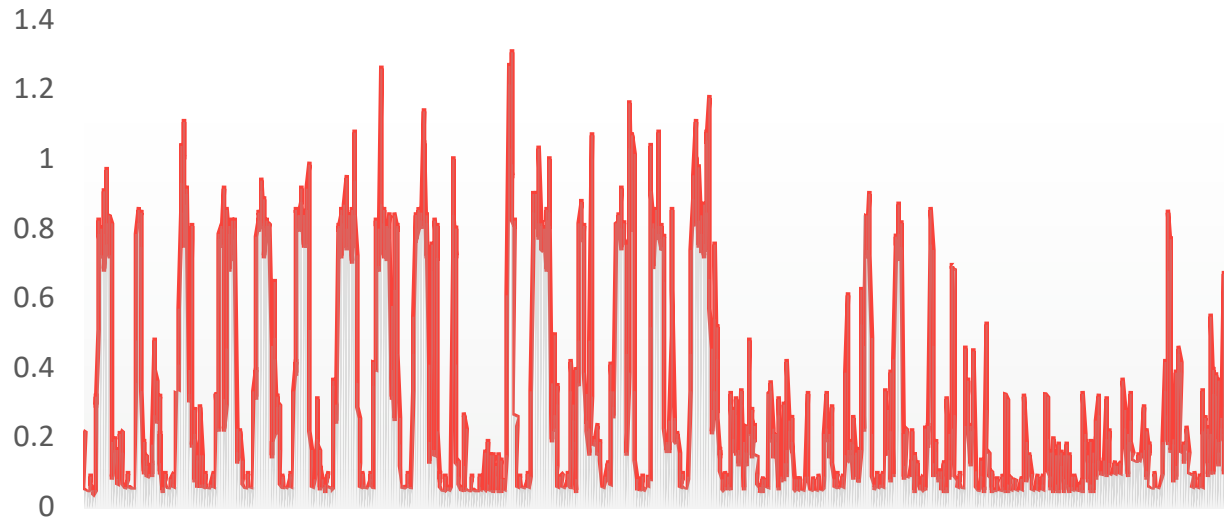
Water meters owned by the utility company were replaced in 2015. Immediately following replacement, measured water consumption increased dramatically.



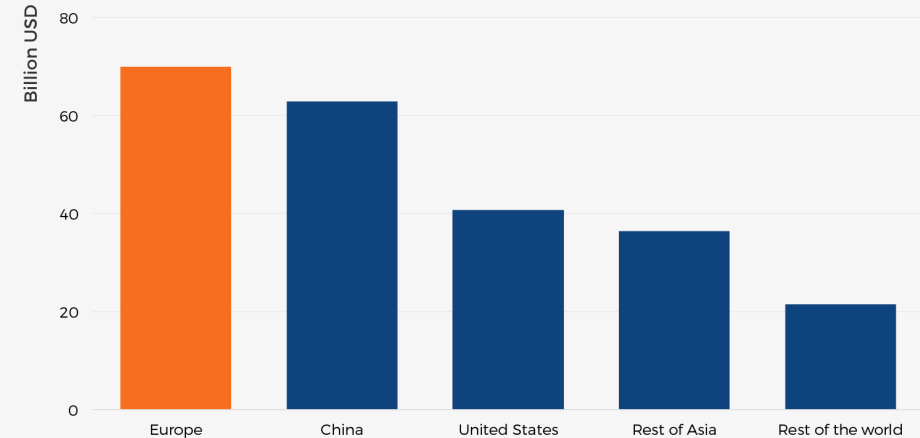
Current State:

Data Lag Times Are Long (Even When They Aren't) & Capital is Stuck or in Competition

15 Minute kWh Usage



Global energy efficiency investment 2016
World Energy Investment 2017



Future State:

Saying Goodbye to Energy Efficiency Compliance Audits, Hello to Performance Improvement Planning

Local Law 87 of 2009: Energy Efficiency Report Deadlines + Filing

Local Law 87 of 2009 requires owners of applicable, mixed-use and residential buildings to submit an Energy Efficiency Report (EER) every ten years. Buildings that must file an EER in Calendar Year 2014 must have their reports filed by close of business on Wednesday, December 31, 2014.



Greenhouse Gas Emissions



Greenhouse Gas Emissions
71%
of NYC Emissions are from Buildings

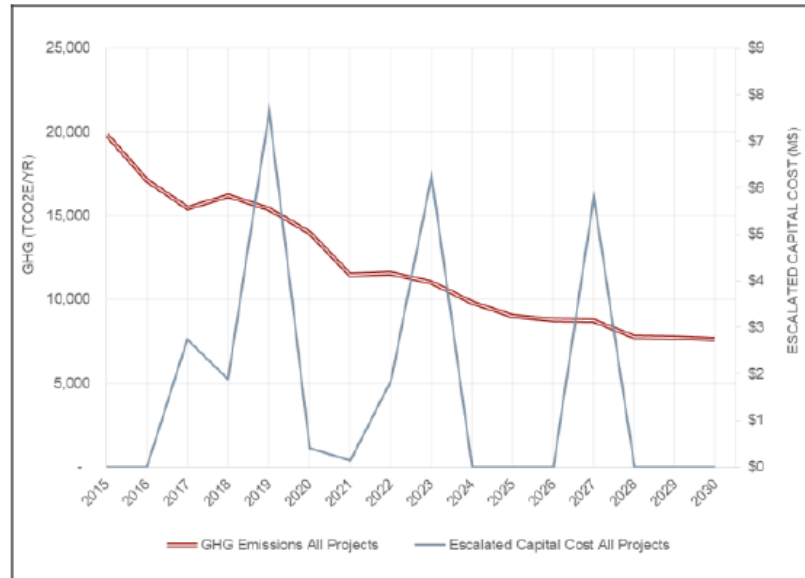


New Laws Reduce Greenhouse
Gas Emissions from Buildings
by 40%
by 2030

Future State:

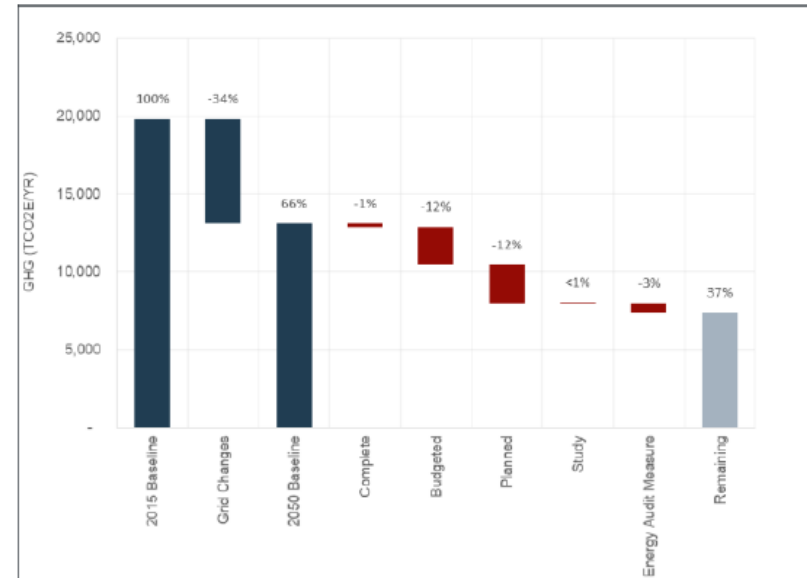
Usable Data & New Tools for Decarbonization Planning

Figure 1: Example Output - Annual Projection Report



Activities by Year	Emissions (tCO2e)	# of Projects
= 2018	(2,423)	10
LED Lighting	(124)	2
Smart Buildings	(343)	5
Minor ECM Implementation (ReCx)	(97)	2

Figure 2: Example Output - Project Status Report



Activities by Project Status	# of Projects	Emissions (tCO2e)	Energy Savings (GJ)	Escalated Capital Cost (\$)
- Planned	45	(2,455)	(67,794)	\$ 21,935,702
LED Lighting	4	(20)	(8,381)	\$ 5,069,835
Smart Buildings	1	(155)	(2,017)	\$ 550,207
Controls	6	(253)	(7,429)	\$ 3,247,932
Equipment - Heating	5	(465)	(10,074)	\$ 6,375,575
Minor ECM Implementation (ReCx)	23	(732)	(20,387)	\$ 551,724
Equipment - AHUs/RTUs	1	(26)	(1,015)	\$ 1,759,877
Equipment - Cooling	3	(46)	(1,950)	\$ 3,187,474
Equipment - Heat Recovery	2	(757)	(16,540)	\$ 1,193,079

Insights: Anticipated emissions reduction trajectory; Anticipated annual capital costs; spikes to smooth out via project scheduling decisions; Possible programs of work

Insights: Certainty of emissions reductions (i.e. budgeted vs needing funding); Anticipated remaining emissions to address via off-site renewable energy procurement



NEAR-TERM SOLUTION NEEDED!

A critical problem related to Smart Buildings & Grid Modernization that needs a collaborative, near-term solution is:

Data and resourcing obstacles are preventing rapid decarbonization of buildings.

