

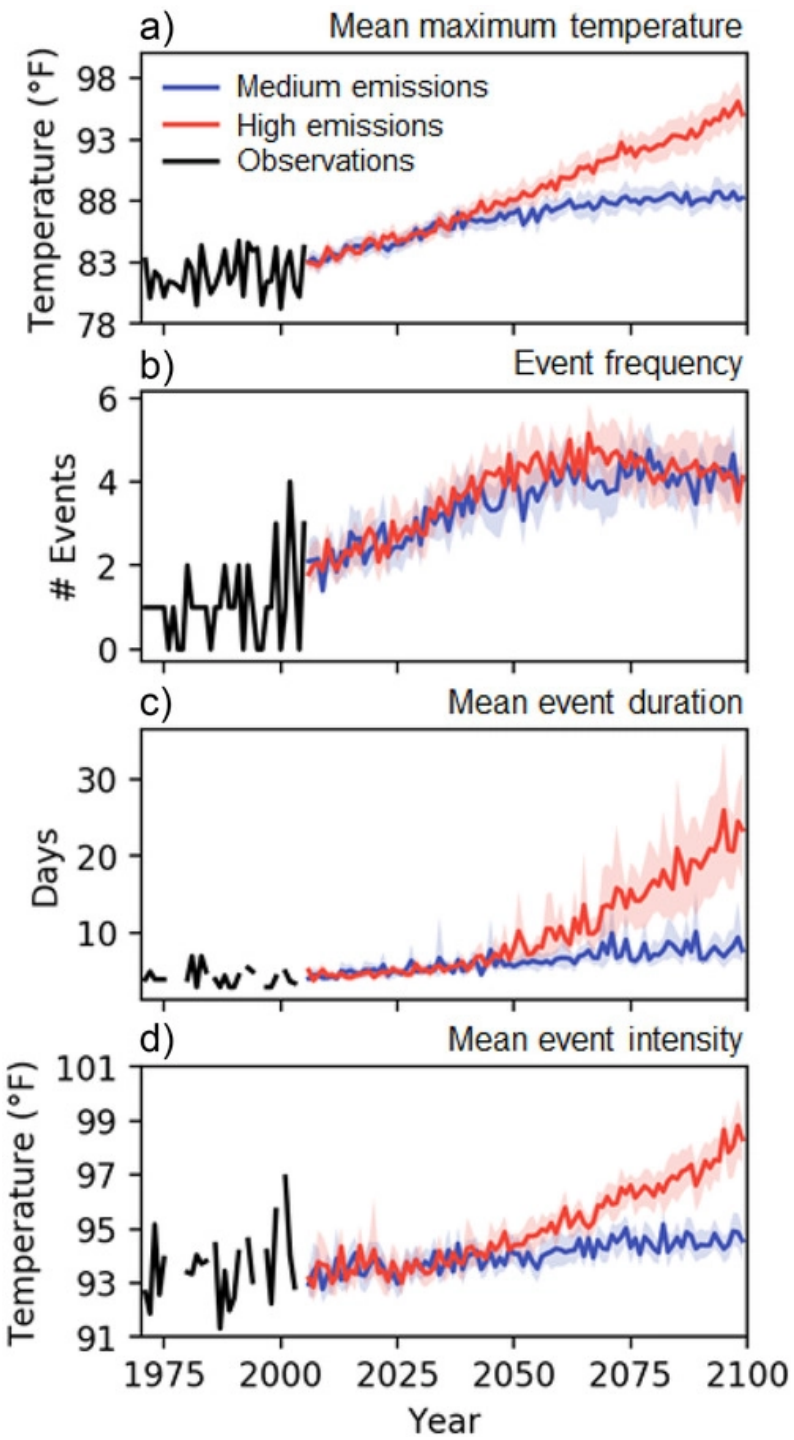
# AEG New York Stakeholder Challenge: Extreme Heat

February 6<sup>th</sup>, 2020

**Extreme heat kills.** Every year, extreme heat in New York City results, on average, in over 450 emergency room visits, 150 hospital admissions, and the deaths of 115 New Yorkers from heat stroke and heat-related exacerbation of chronic health problems. Without preventative planning, climate change will result in more heat-related illness and death as the average temperatures increase, along with increased frequency, intensity, and duration of heat waves and hot days in New York City.

Among heat-vulnerable populations, seniors are at particularly high risk. Seniors spend approximately 90% of their time indoors, are often socially isolated and afflicted with health issues, and are less likely than other groups to be able to travel to local cooling centers.

# Extreme heat will become increasingly frequent.



- Baseline (1971-2000):
  - 2 heat waves per year, lasting about 4 days each; 18 days at or above 90 ° F per year
  - 450 emergency room visits, 150 hospital admissions, and 115 deaths in an average year
- Projections (NPCC2)
  - **2020's:** 4 heatwaves/5 days average duration/33 total days above 90°
  - **2050's:** 7 heatwaves/6 days average duration/57 total days above 90°
  - **2080's:** 9 heatwaves/8 days average duration/87 total days above 90°

Façade upgrades alone can't solve it.



Fig. 14: Center apartment - existing facade temperature profile

### Existing facade

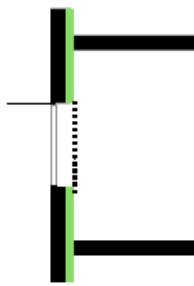
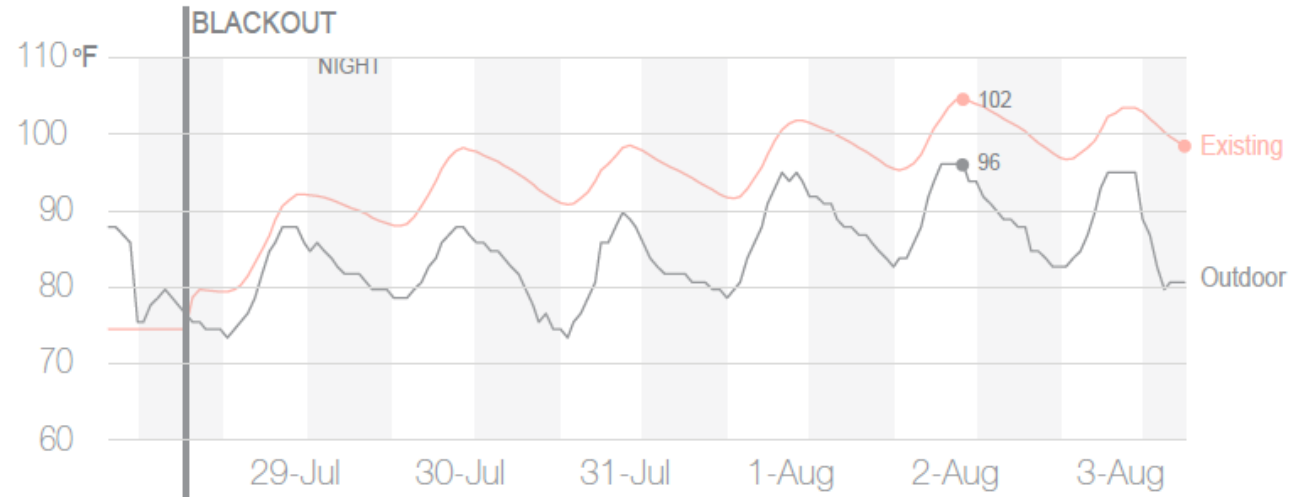
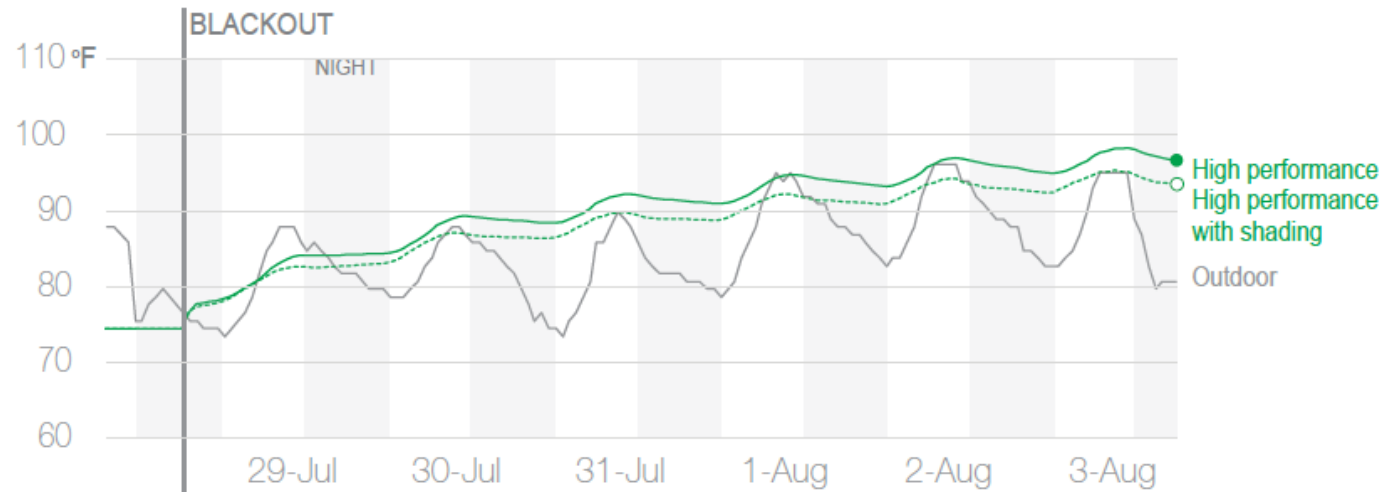


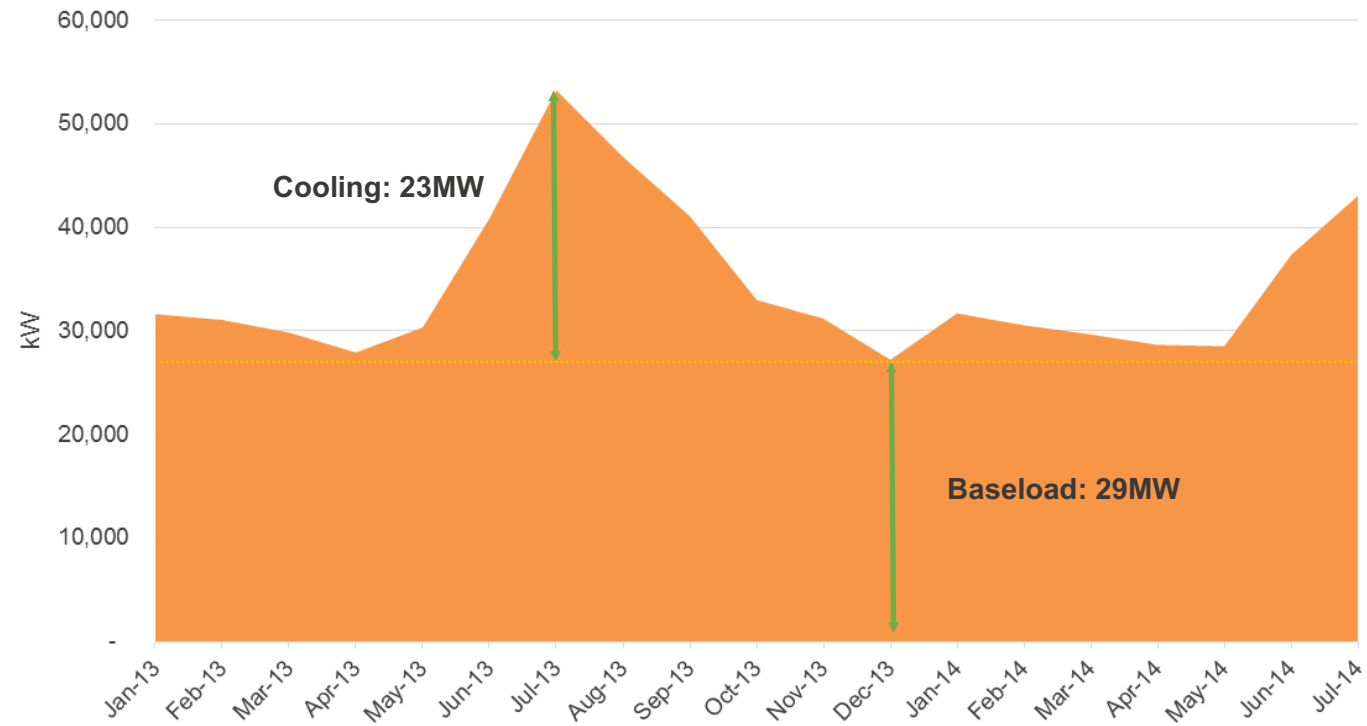
Fig. 19: Center apartment - existing facade temperature profile

### High performance facade with internal + external shading



# Mechanical cooling drives summer peaks.

Summer cumulative  
peak demand,  
66 Brooklyn  
developments  
2013-2014



*Regarding resilience and critical infrastructure,  
to achieve NYC's decarbonization goals, we  
must first address **efficient cooling in  
multifamily buildings.***