CITY-BASED OPTIMIZATION MODEL FOR ENERGY TECHNOLOGIES

**COMET – NEW YORK CITY**

*COMET is designed to help cities make sustainable and resilient energy decisions.*

### Electric Generating Units
- Existing and future technology characterization
  - Natural gas
  - Other generating units

### Residential Buildings
- Existing and future stock of energy technologies by building age and type in each borough to meet end-use demands:
  - Space Heating
  - Space Cooling
  - Water Heating
  - Lighting
  - Misc. Load

### Commercial Buildings
- Existing and future stock of energy technologies by building age and type in each borough to meet end-use demands:
  - Space Heating
  - Space Cooling
  - Water Heating
  - Lighting
  - Misc. Load

### Transportation
- Existing and future fleet characterization to meet transport demand for:
  - Light duty vehicles
  - Bus
  - Medium duty vehicles
  - Heavy duty, short haul vehicles
  - Rail passenger and subway

### Electric Generating Units in New York State
- Calibrated to electricity generation in 2010 (below) and 2015 and characterized future electricity generating
  - Gas: 49 TWh
  - Nuclear: 42 TWh
  - Hydro: 25 TWh
  - Coal: 14 TWh
  - Wind: 3 TWh
  - Biomass: 3 TWh
  - Oil: 2 TWh
  - Other: 1 TWh

### Fuel and Electricity Imports to New York State:
- Extraction, production and transmission of oil & gas, coal, uranium; refinery products (gasoline, diesel); electricity

**Environment**
- Air and GHG emissions
- Water consumption

**COMET**

United States Environmental Protection Agency