Executive Summary

One of the biggest ways local governments can save energy and money is by upgrading to energy-efficient LED street lights. For many municipalities, street lighting is the single greatest electricity cost in government operations. Beyond saving energy and money, LED technology has superior optics over the older technologies, improving visibility and reducing glare, which helps to make streets safer for pedestrians, cyclists, and motorists.

North of New York City and Long Island, the vast majority of street lights are utility-owned, and until very recently, upgrading to LEDs was not an option for most communities. Recently, two major changes have opened new opportunities for LED conversion across the state: 1) Under the direction of the New York State Public Service Commission, all of the state's utilities now offer, or will soon offer, LED street lighting options; and 2) State legislation amending Public Service Law has resulted in streamlined procedures for municipalities to purchase their street light system from the utility and upgrade to LEDs of their choosing.

Local governments now have two conversion pathways available to them, along with some important decisions to make: Do they upgrade to utility-owned LEDs or do they purchase their street light system and procure their own LED fixtures? If the latter, which procurement, management, and financing options would best meet their needs for purchasing the system and implementing the upgrades? This report will help guide municipalities through this important decision-making process.

Report Objective

This report will help local governments understand their options and make informed decisions by:

- Laying out and evaluating current and proposed LED street light offerings from each of the three utilities serving the Mid-Hudson region (Central Hudson Gas & Electric, Orange & Rockland Utilities, Inc., and New York State Electric & Gas Company).

- Describing and assessing the risks, costs and advantages of utility and municipal ownership models.

- Explaining the financing and procurement strategies available to local governments and providing illustrative examples of each in New York and elsewhere.

- Delineating the steps for implementing an LED street light conversion project, including the process of purchasing the street light system from the utility.

Report Approach

The overall approach focuses on identifying and explaining the LED conversion options (existing and proposed) offered by the three Mid-Hudson utilities, and providing qualitative and quantitative assessments of the costs, savings, and emissions reduction benefits of utility-ownership and municipal-ownership pathways. A utility-specific analysis is required because of major differences across utilities in their street lighting policies and existing street light inventories. Data sources for the analyses included utility tariffs and tariff filings with the Public Service Commission, Commission Orders, utility rate case flings, documents and agreements for the purchase of street systems by municipalities, municipal street light inventories, and utility service territory inventories.

Recent street lighting projects in New York and other states, together with interviews with municipal officials, consultants, and financial institution representatives, have provided a wealth of material for identifying and describing the variety of procurement and financing options available to local governments for implementing a street light system purchase and LED conversion. Fortunately, there is no shortage of options.

Summary of Conclusions

Bill Savings:

- Regardless of which pathway to LED conversion that municipalities choose—municipally owned or utility owned--they will see substantial long-term savings compared to their current street lighting costs. Municipalities can save 19 to 43 percent over 15 years by converting to utility-owned LEDs and from 15 to 76 percent by purchasing their lights from the utility and converting to municipally-owned LEDs.

- The greatest bill reductions are achieved through municipal ownership of the lights, together with a well-designed conversion to LED technology. **Once the initial investment in LED conversion has been paid off, local governments will see a reduction in street lighting bills of 75-80 percent in Central Hudson territory, 80-90 percent in O&R territory, and 60 to 75 percent in NYSEG territory, compared to current bills.** This is the case even if local governments contract with a third-party provider for ongoing operation and maintenance of street lighting, and is due to largely to the elimination of ongoing utility fixture charges.

- Municipalities converting to utility-owned LEDs must pay off the remaining net book value of the lights being replaced. Once these “stranded costs” are paid, local governments will see their street light bills reduced by up to 43 percent in O&R territory,

up to 31 percent in Central Hudson territory, and up to 47 percent in NYSEG territory under NYSEG's LED street light proposal.

Energy Savings:

- Because LEDs are so much more efficient than the older lights, local governments converting to utility-owned options would realize energy savings of 62 to 81 percent in O&R territory; up to 75 percent in Central Hudson territory;[1] and up to 71 percent in NYSEG territory.

- The extent of energy savings will depend on municipalities making appropriate choices from among utility wattages when converting to LEDs. Local governments will need to undertake a street lighting assessment and develop their own replacement plan for utility LEDs.

- Local governments could realize modest additional energy savings by purchasing the street light system and installing LEDs that are more appropriately sized replacements than those offered by the utility, based upon a lighting design plan.

Conversion Time-Frame:

- A full conversion to utility LEDs could take anywhere from under a year to seven years, depending on the utility service territory. Central Hudson's tariff sets a minimum conversion for municipalities of 15 percent annually, and a maximum of 25 percent per year for the entire service territory; the tariffs of O&R and NYSEG set a maximum conversion of 20 percent per year for the entire service territory, and will undertake municipal conversions on a first-come, first-serve basis. Since no utility conversions have occurred at the time of writing, the actual pace of utility LED conversions is unknown.

- For municipally-owned street lights, LED replacements can typically be completed within a few weeks or a few months once an installer has been selected, depending on the number of lights. (Conversions in cities with many thousands of lights could take a year or more.) If a community must first buy its street light system from the utility, the purchase process, alone, can take anywhere from six months to about a year.

Procuring and Financing Municipally-Owned LEDs:

[1] The potential savings depends upon how quickly Central Hudson converts the lights to LEDs—the quicker the conversion, the greater the savings.

- Local governments have a wide range of procurement options available to them for purchasing the street light system and procuring, installing, and maintaining LED lights. These approaches vary by extent of direct municipal involvement—from very hands-on (least expensive but most demanding in terms of project management) to fully out-sourced (most expensive and most hands-off). Taking advantage of piggybacking and aggregated purchase opportunities can reduce costs.

- A variety of financing options exist for purchasing the street light system and procuring and installing the lights. The project payback period is estimated to be four to five years in Central Hudson territory, three to five years in O&R territory, and four to eleven years in NYSEG territory. Depending on how the purchase is financed, local governments could see a net financial benefit beginning in Year 1.