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*March 1, 2023*

# The High Cost of New York Gas Utilities' Leak-Prone Pipe Replacement Programs

## Why conduct an analysis of leak-prone pipe?

New York's gas utilities collectively have about 7,000 miles of aging, leak-prone cast iron and unprotected steel pipes in place for both mains and service lines to individual customers throughout their distribution systems. These utilities are currently replacing sections of this leak-prone pipe (LPP) and have plans to continue replacing it far into the future.

Leaking pipes emit methane gas, a powerful greenhouse gas (GHG), into the atmosphere. Replacing actively leaking pipes reduces GHG emissions and safety risks. However, utilities are replacing both actively leaking pipe and pipe that is not yet leaking. Utilities recover their investments to replace pipes from ratepayers over the life of the new pipes. Historically, utilities have assumed these useful lives will be more than 50 years.

Continuing replacement of LPP at current rates will result in growing undepreciated asset balances for many years to come. These investments will lead to billions of dollars in additional revenue required to be collected from ratepayers to cover the cost of the new pipes, a return on that investment for utility investors, and property and income taxes. Greater revenue requirements will lead to future increases in gas rates.

So, if New York's gas utilities continue their current trends for LPP replacement, how big are the impacts on revenue requirements?

## Description of analysis

Synapse conducted an analysis of the future costs of replacing the remaining LPP for six New York utilities: Con Edison (ConEd), KEDLI (aka KeySpan Gas East Corp d/b/a National Grid NY), KEDNY (aka Brooklyn Union Gas Company d/b/a National Grid), National Fuel Gas (NFG), Niagara Mohawk (NiMo), and New York State Electric and Gas (NYSEG). According to the Pipeline and Hazardous Materials Safety Administration, the federal pipeline safety regulator, these six utilities cover 97 percent of existing LPP miles of mains in the state, and 87 percent of the LPP mains replaced in 2021.

| | Existing LPP Mains (miles) | % of Total NY Existing LPP Mains | 2021 Replaced LPP Mains (miles) | % of Total NY LPP Replacement |
|---|---|---|---|---|
| ConEd | 1578 | 22% | 83 | 26% |
| KEDNY | 1437 | 20% | 47 | 15% |
| KEDLI | 2127 | 30% | 17 | 5% |
| NFG | 1399 | 20% | 88 | 27% |
| NiMo | 290 | 4% | 39 | 12% |
| NYSEG | 42 | 1% | 4 | 1% |
| **Subtotal** | **6873** | **97%** | **279** | **87%** |

For this analysis, we obtained financial metrics (e.g., return on equity) and the cost of pipe replacement (per mile for mains and per unit for services) from the most recent rate cases for the six utilities.[1] We used these financial values to calculate the future revenue requirement associated with replacing the remaining LPP, in other words the total costs to ratepayers for replacing the remaining LPP.

## Results

Our analysis finds that LPP replacement leads to a burgeoning cumulative revenue requirement for New Yorkers through 2100. This is 50 years beyond when New York's *Climate Leadership and Community Protection Act* (CLPCA) calls for the state to achieve net-zero emissions statewide.

By utility, LPP replacement contributions to revenue requirement are highest for ConEd, KEDNY, and KEDLI, in part due to the size and age of their distribution systems, and the higher cost of projects in and around New York City. Based on this analysis, ConEd's revenue requirement for LPP alone would rise to a high of $1.33 billion in 2041 before gradually declining as the new pipes depreciate. KEDNY would experience a peak in its annual LPP revenue requirements around the same time, at $1.28 billion in 2043.

## Implications

New York's CLCPA requires achievement of net-zero GHG emissions by 2050. To date, gas utilities have generally focused on emission-reduction approaches that allow and encourage continued use of the gas distribution system. Examples include increased utilization of renewable natural gas and hydrogen. These approaches would require continued LPP replacement to safely operate the gas system, incurring both the $150-billion-dollar cumulative cost of LPP replacement and the ongoing high cost of non-fossil-fuels.

[1] We generally relied on values from Commission orders or the most recent utility rate case filing. We use 2021 values when available, and escalated costs from prior years (e.g., 2018) using a Gross Domestic Product Chain-type Price Index inflator. To project future costs beyond 2021, we assumed a 2% inflation rate.

Figure 1. Annual revenue requirements through 2050 of six New York gas utilties analyzed by Synapse

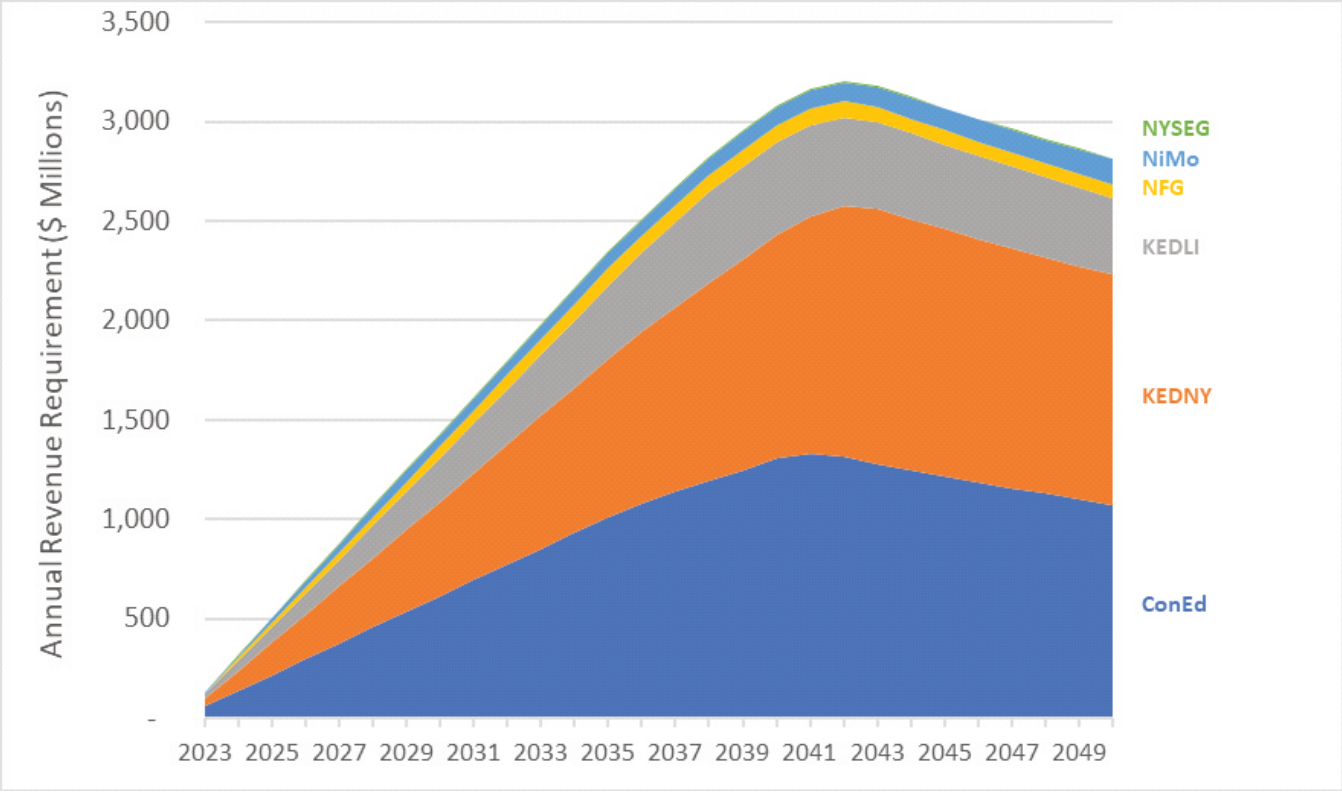


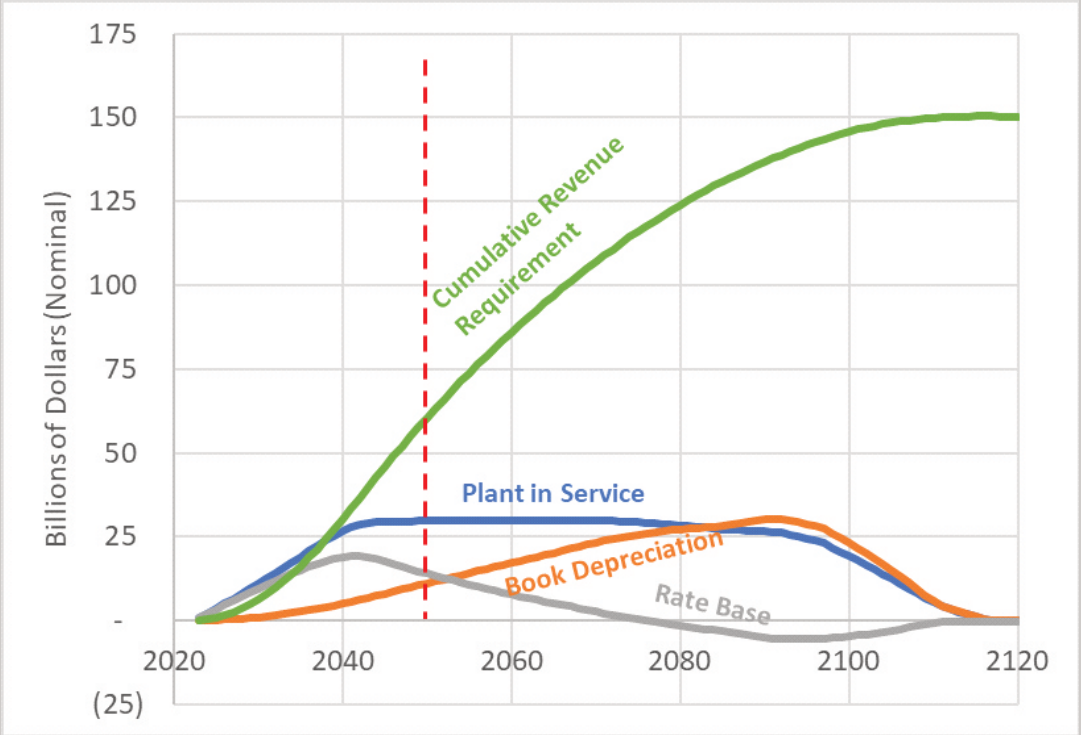
Figure 2. New York gas utilities' expanding revenue requirements, in the context of New York's zero-emissions target date (dotted red line)

**Revenue requirement:** total revenue authorized by the commission to be realized through a utility's revenue collections to cover costs associated with projects. Annual revenue requirements are the amount that a utility would recover over a year for such project(s), and cumulative revenue requirements reflect the revenue needed over the life of the asset.

**Plant in service:** assets used to provide service to ratepayers.

**Rate base:** total value of a utility's assets (e.g., plant, equipment, working capital, and deductions for accumulated depreciation), net of depreciation.

**Book depreciation:** portion of a fixed asset considered consumed in the current period and recorded in the utility's financial statements.




There is growing recognition that reliance on these alternative fuels is insufficient to meet New York's GHG-reduction targets. The state's Climate Scoping Plan states that "achievement of the emission limits will entail a substantial reduction of fossil natural gas use and strategic downsizing and decarbonization of the gas system."[1] Continuing to replace LPP at the present pace, or consistent with the utilities' stated goals for pipe replacement, risks incurring substantial costs to extend the life of a system that needs to be downsized in just a few years. Those costs would be spread over fewer gas sales, resulting in greater rate increases and encouraging defection of customers from the gas system—potentially causing an unsustainable feedback loop.

[1] Climate Scoping Plan, Page 350.