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Maryland Gas Utility Infrastructure Spending

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Maryland Commission on Climate Change

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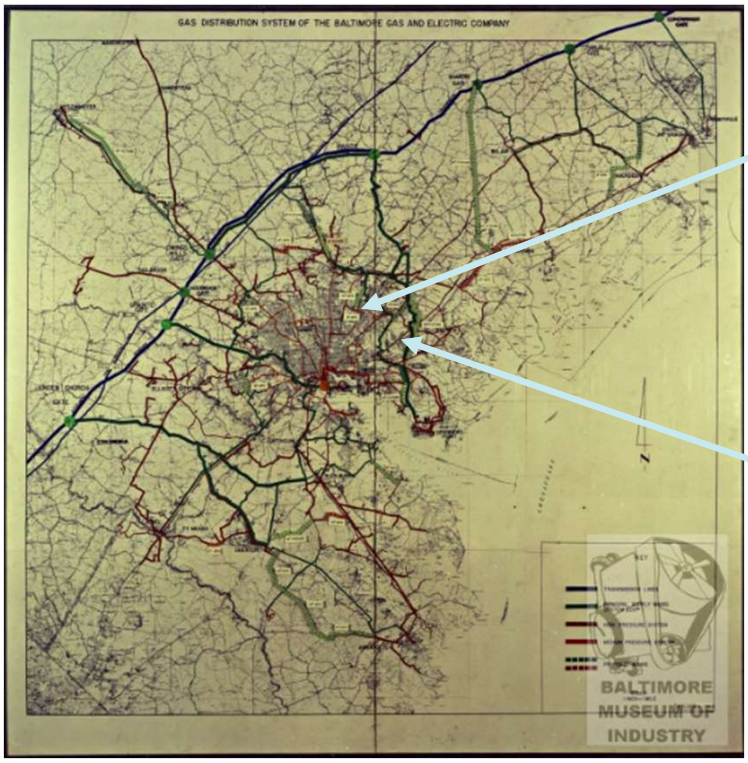
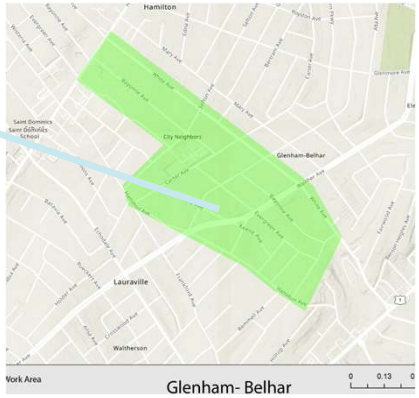


BGE Baltimore City gas distribution system – 1971



https://www.bge.com/SmartEnergy/InnovationTechnology/Documents/Cedarcroft%20Map.png

- Gas infrastructure system replacement programs target entire communities until the legacy system is replaced.
- BGE's replacement program is about one-third complete.
- Two-thirds of program to go and about $3 billion in future capital costs.
- STRIDE statute provides financial incentives for replacement.

Cedarcroft and Glenham-Belhar (at left) are two of 19 current BGE replacement projects.

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Gas Infrastructure Spending

- Costs are locked in, to be recovered from customers over many decades—generally more than 35 years.
- Costs identified do not include the utilities' rate of return including profit—for future STRIDE $17.7 billion—for total costs of over **$25 billion.**

Maryland gas utilities' spending for replacing gas infrastructure ($ billions)

Combined actual/projected STRIDE expenditures of Maryland's 3 largest gas utilities	
Total spent STRIDE I (actual 2014-2018)	$0.809
Actual/Anticipated spend STRIDE II (2019-2023)	$1.287
Estimated STRIDE III (2024-2028) budget	$1.374
Estimated STRIDE IV (2029-2033) budget	$1.656
Estimated STRIDE V (2034-2038) budget	$2.115
Estimated STRIDE VI (2039-2043) budget	$2.162
All-time Total STRIDE I – VI	$9.403
Future Total = STRIDE III to STRIDE VI	$7.307

STRIDE program costs above show less than half of total gas utility spending on capital infrastructure. STRIDE is the largest category of capital costs, contributing to rate increases.

Gas Infrastructure Spending Continues to Accelerate

Updates of OPC's Oct. 2022 *Gas Utility Spending* report based on recent regulatory filings*

- All time STRIDE spending goes from $6.3 billion to $9.4 billion.
- BGE's projected spending on new business and expansion for 2022 was $78.3 million; actual 2022 spending was $92 million; higher numbers projected.
- BGE rate case proposal would increase gas capital spending in 2026 by 73% from 2021 levels.
- BGE continues to spend on gas capital infrastructure at twice the rate per customer over electric.

**https://opc.maryland.gov/Gas-Utility-Spending-Report*
These are preliminary results of updates in progress.

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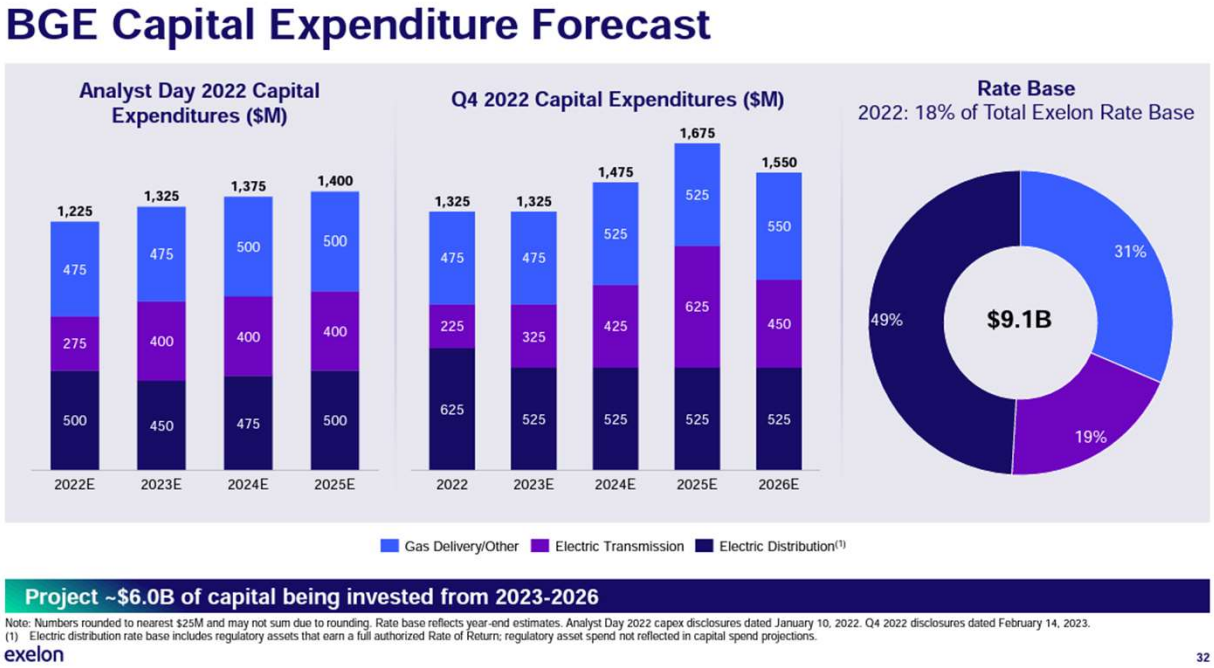

Exelon investor presentation: BGE capital spending on gas system goes from $475 million in 2023 to $550 million in 2026.
https://investors.exeloncorp.com/events-and-presentations/presentations

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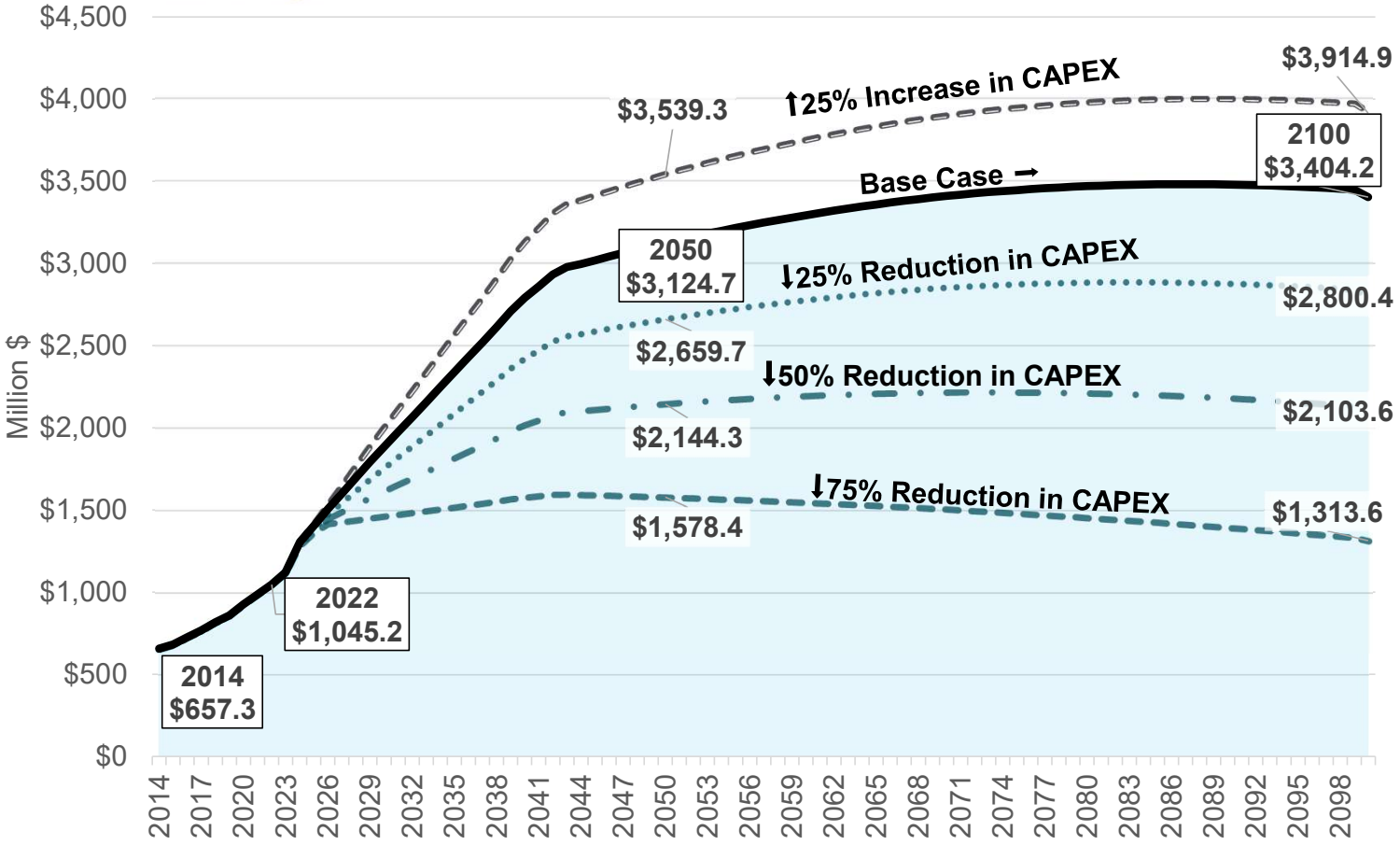
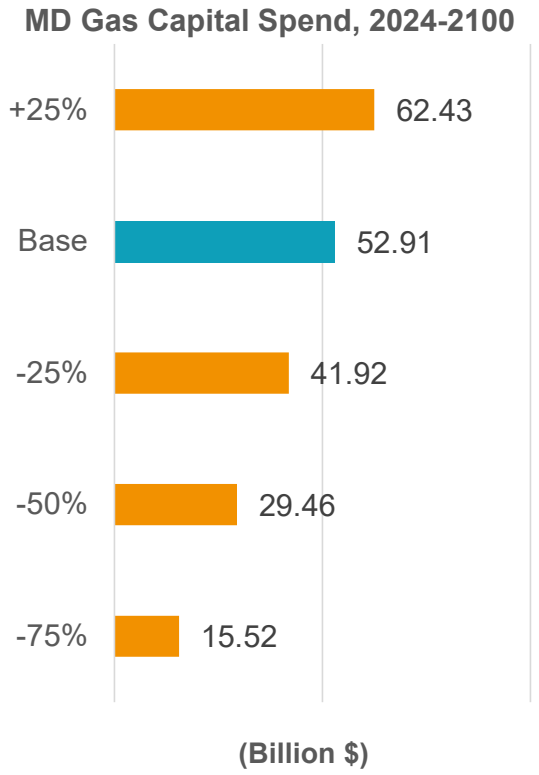
Cost Savings Potential





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Gas main

Gas service line

Gas regulator and meter

Individual Building Costs – BGE example

- More than $6,343 capital costs per house, on average.
- Full recovery occurs over 50 years, at total cost of more than **$19,000** per house.
- A customer that electrifies will not use service line, meter, regulator.
- Costs are potentially shifted to remaining gas customers.

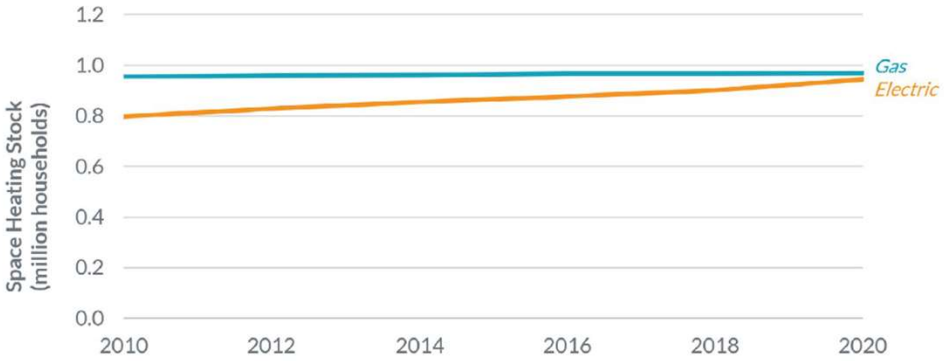
These individual building costs exclude the systemwide costs for mains and other capital investments that individual customers also pay.

Electrification

Installed costs of residential retrofit*	
Electrification—heating *and* cooling with heat pump	Replacement of gas furnace and AC unit
$8,000	$11,000

** Less, B. D., et al. 2021. The Cost of Decarbonization and Energy Upgrade Retrofits for US Homes. Lawrence Berkeley National Laboratory. Available at: https://escholarship.org/uc/item/0818n68p.*

Figure 1. Gas and Electric Space Heating Stock in Maryland Households, 2010-2020



Source: US Census Bureau: American Community Survey. Table DP04: Selected Housing Characteristics for Maryland, 5-year Estimates. June 2, 2022. Available at: https://data.census.gov/cedsci/table?q=DP04&g=0400000US24&tid=ACSDP5Y2020.DP04

Electrification grants, credits, rebates

- IRA tax credits
- IRA rebates
- EmPOWER incentives
- Other Maryland incentives

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Prior Gas Policy MCCC Recommendations—Still Outstanding

- Gas utility transition planning (2022 Annual Report, pages 16-17)
- Elimination of gas appliance incentives in EmPOWER (page 16)
- Reforms to gas line extension policy (in absence of all electric new building code) (page 17)

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New Recommendation

Public Service Commission/General Assembly modifications to STRIDE program to prioritize ratepayer-supported investment on the highest risk assets—pipes that are leaking and most leak-prone—and to consider less costly alternatives to replacement, such as electrification.

- Direct gas companies to develop a cost-effectiveness test or risk-assessment analysis for projects prior to receiving accelerated financial treatment.
- Require justification as to why replacement is necessary compared to any less-costly alternatives, such as:
  - leak detection and repair,
  - targeted replacement, and
  - electrification.
- Require heightened analysis for service locations that may be retired because of electrification.
- Establish notice requirements for customer-specific STRIDE work to allow customers time to electrify, avoiding unnecessary costly investments.

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Gas Utility Myths

- **Alternative fuels will be a good use of the fossil gas distribution infrastructure**
  - Alternatives are costly, not available at scale, and competition for them will be intense from uses that are less easily electrified.
  - Alternative fuels still raise safety and health concerns, because they continue to require combustion.
- **Electrification will break the electric distribution grid**
  - Electrification will occur slowly, largely driven by economics; overall electricity consumption declines.
  - There's no "cliff" but gradual growth in peak demand; growth is well below historical growth rates.
  - Maryland is a summer peaking state, and it will take years for winter peak—from electrifying home heating— to catch up to summer peak.
- **Heat pumps require backup**
  - Cold climate heat pumps need no backup in Maryland's climate; they are highly efficient at very low temperatures.
  - Heat pump technology is vastly improved in recent years and further improvements are anticipated.
- **Consumer choice**
  - Recommendations do not "ban" gas.
- **We can "leverage" the existing gas systems**
  - The *existing* gas system is being *replaced* and the state's 2 largest gas utilities are only about 1/3 of their way done building their *new* systems; other substantial infrastructure costs are for *new* customers.
  - Maryland utilities are creating millions of *brand new* "sunk" gas distribution system costs every day.

BGE Distribution Grid Example

- **2011:** BGE meets summer peak of just over **7,600 MWs**.
- **2011-present:** BGE spends more than $4 billion on its distribution and transmission systems.
- **2023:** Draft PSC report forecasts for 2031: Under high electrification scenario, with *legacy* technologies, BGE's peak will be **just over 7,500 MWs**; with *best-in-class* technologies, it will be **6,917 MWs**.

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Reality check

- BGE says we'll have "the same delivery system deliver ***something*** different" and that using gas for backup heating is "more important than whether the gas throughput reduction is 70 percent or 80 percent."
- NiSource/Columbia Gas says it "is ***not aware*** of any heat pumps currently available that would require no back-up heating system."
- Washington Gas says it "should not speculate about future environmental decisions" and that it has "**[n]o analyses, documents or studies** . . . forecasting the expected gas usage of its customers over the next 30 years."

Gas utilities can pursue an alternate reality as monopolies that do not pay the costs or share the risks—their captive customers do. But Maryland cannot afford recklessly locking in a half century of costs—tens of billions of dollars—on a declining technology.

Emphasis in quotes has been added

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Summary

- ***Recommendation is modest!*** STRIDE statute currently has no additional safety requirements; it serves only as a mechanism to accelerate gas infrastructure replacement.
  - Requires assessment of risks and cost-effective alternatives.
  - Utilities still get accelerated cost recovery of qualifying replacement work.
  - Just a small step in the direction of reducing the billions of dollars in costs of continued reliance on fossils.
  - Alleviates some of the customer risks and potential stranded costs.
- ***Follow the dollars!*** It is no coincidence that every gas utility "strategy" for decarbonizing requires continued spending of billions of dollars on fossil fuel infrastructure.