Advancing Energy Affordability amid Rising Rates: A Case Study from New Jersey

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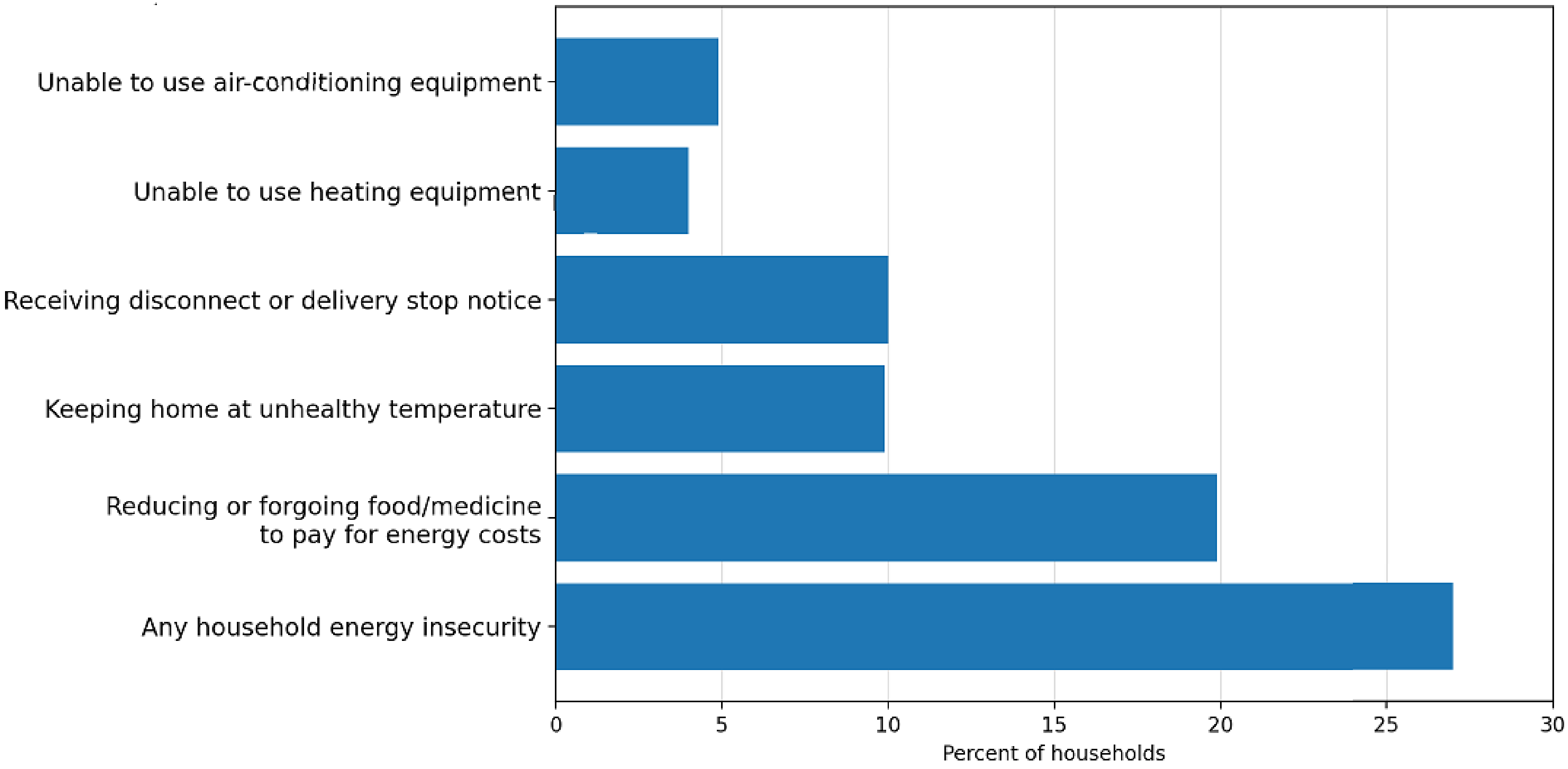
1 in 4 US Households Experience Energy Insecurity



Source: EIA Residential Energy Consumption Survey (2020), U.S. Energy Information Administration - EIA - Independent Statistics and Analysis.

Key drivers of grid cost increases (and affordability challenges)

1) Grid infrastructure investment is the dominant upward pressure on bills

- Utilities are spending more on capital-intensive distribution upgrades, which is driving up higher rate base
- U.S. transmission investment reached >$30B in 2024, reflecting expansion needs and cost pressures
- Federal policy is pushing more regional transmission planning and cost allocation to support reliability and changing generation/load geography, reinforcing the buildout trend

2) Load growth and electrification are shifting planning needs and accelerating upgrades

- New drivers (e.g., data centers/AI, electrification, reindustrialization) are increasing forecasts for peak and energy, often requiring substation, feeder, and bulk system upgrades
- Higher peaks can increase costs disproportionally because the system must be built to meet a few critical hours, driving incremental capacity and wires investment

3) Reliability and resilience spending is rising with extreme weather risk

- Utilities are investing more in hardening, vegetation management, and storm restoration as outages and storm impacts become more material drivers of distribution capex and O&M
- Regulators face a documented tradeoff: modernization and resilience investments are increasingly necessary, but they raise near-term customer bills

4) Resource transition, fuel price volatility, and interconnection costs add upward pressure

- Many regions are managing the cost implications of resource mix change and balancing needs
- Faster DER deployment and queue backlogs are increasing the importance of distribution and sub-transmission interconnection
- Even when average energy cost is stable, added costs often show up in delivery charges and riders (T&D, resilience, and program cost recovery), which customers experience as “rate increases.”

Need for Increased Efforts to Ensure Energy Affordability

With all of these drivers likely to intensify in the foreseeable future, the most immediate opportunity is to **improve utilization of the existing grid**

- Before doubling down on more infrastructure, it is essential to improve utilization of the existing grid by pursuing **cost-effective load flexibility programs, energy efficiency, and grid enhancing technologies**
- Enhancing **cost-reflective rate design**—from residential customers to the largest loads—is necessary
- These efforts will not only lower costs directly, but also ease rate pressure indirectly by enabling faster integration of large loads and **spreading the grid's fixed costs over a larger volume of sales**
- It is also important to ensure **large loads also "walk the walk"** when it comes to load flexibility

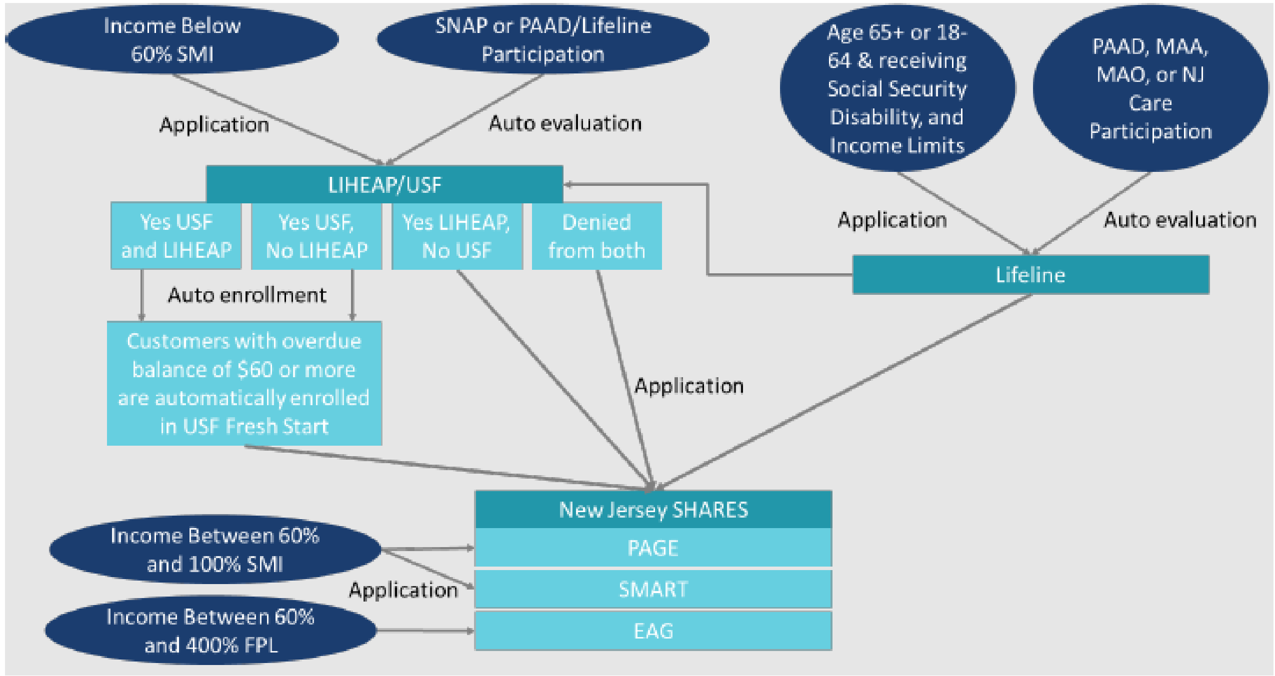
Nevertheless, these efforts will likely take time to implement comprehensively and across the board; it is essential to keep energy affordable for low- and moderate-income (LMI) customers through targeted policy and rate options to reduce energy burden

Assessment of Energy Affordability in New Jersey

As NJ's energy economy undergoes a major transition, it will be essential to ensure that **low- and moderate-income (LMI) customers** are not left behind and can equally benefit from this shift

- The 2022 Energy Master Plan Ratepayer Impact Study showed that LMI customers already face high energy burdens and may become much more vulnerable to rising electricity and gas rates
- NJ BPU retained the Brattle Group in 2024 to evaluate the **effectiveness of the major bill assistance programs in New Jersey based on how much they reduce "energy burden" for participating households**

FIGURE 9: NEW JERSEY ENERGY BILL ASSISTANCE PROGRAM ELIGIBILITY DIAGRAM

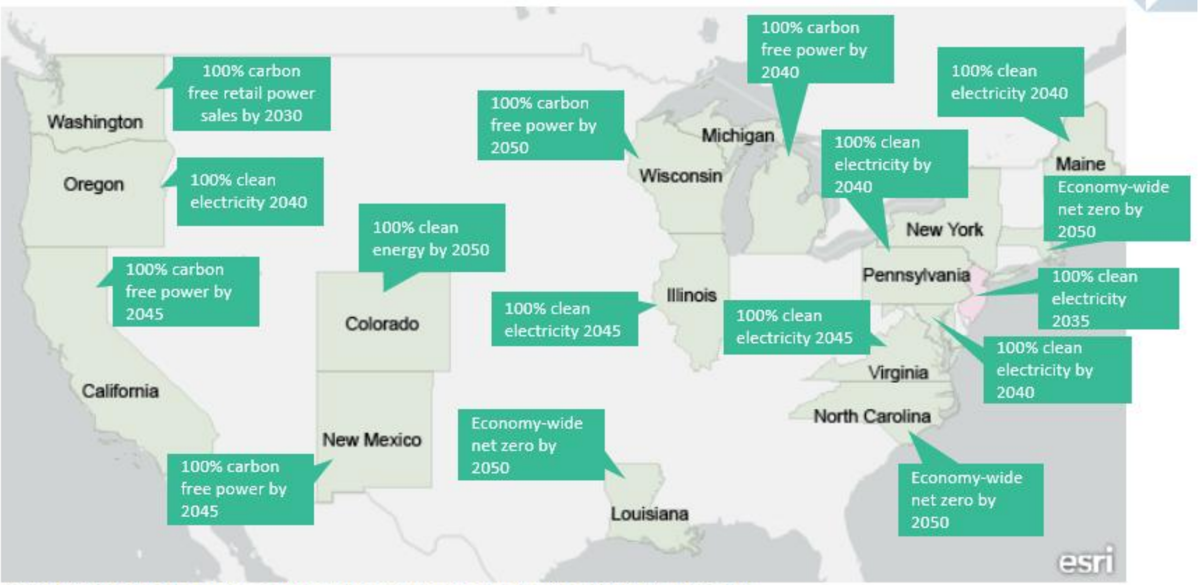


- Comprehensive data collection effort which resulted in a dataset of 214,000 customers (HH annual electricity and gas bills without discounts, income, and discount type and amount)
- Without data that tracks *all* energy assistance payments delivered to *each* LMI customer, it isn't possible to assess whether those dollars are reducing energy burden to acceptable levels.

Jurisdictional Scan of Energy Assistance Programs

We surveyed 18 states with ambitious clean energy goals to evaluate their energy assistance offerings to provide context on energy assistance programs across the US, and identify best practices

States Included in the Jurisdictional Scan



Key Observations from Jurisdictional Scan

Assistance Structure

- Income-based programs such as PIPP and tiered discounts address affordability in a more targeted way, with energy burden targets varying between 4-10%

Eligibility

- Using the same criteria across programs simplifies enrollment and reduces administrative burden
- Moderate-income programs are less common across states

Enrollment

- Automatic enrollment from means-tested programs streamlines the process and increases participation
- Application processes can be streamlined further by combining applications and sharing data across programs
- Targeting outreach towards the lowest-income neighborhoods is important

Funding

- Through a surcharge (volumetric or monthly fixed) applicable statewide, often exempting LMI customers

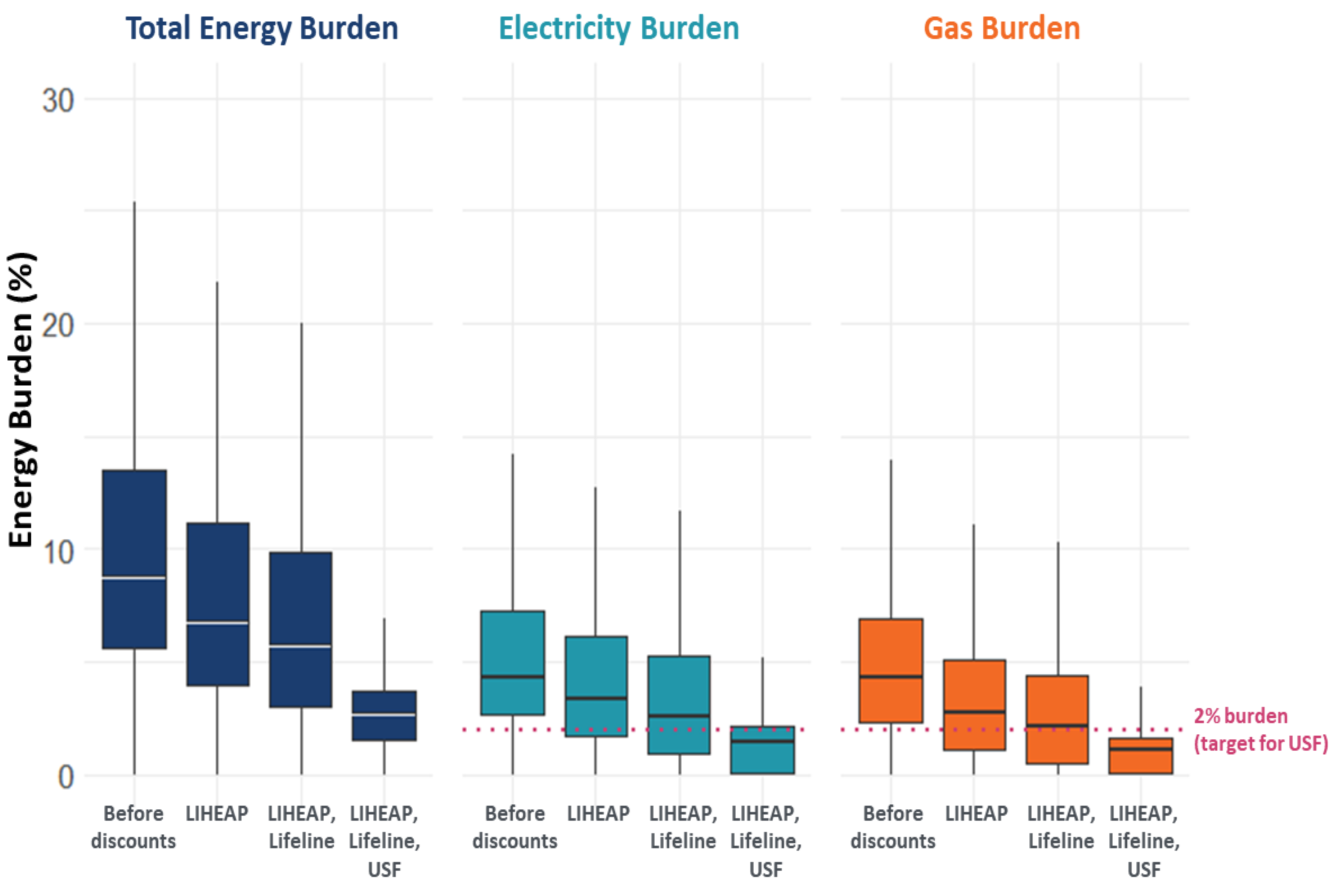
NJ’s major bill assistance programs are effective in reducing energy burden for participating households

Universal Service Fund (NJ’s PIPP) successfully achieves the energy burden target, which is 2% for electricity and 2% for gas, or 4% if heating with electricity, for 90% of participating customers

While this is a great outcome, increasing participation of eligible customers will be key going forward

- Approximately 31% of NJ households are eligible for programs that use the 60% SMI threshold (LIHEAP/USF), and of the eligible households, roughly 20% of eligible households receive LIHEAP/USF

Also, as electricity rate increase, there will be more households that are ineligible despite having high energy burden. Especially, *moderate-income households may not qualify despite struggling with energy costs*



Path Forward

New Jersey is leading the way among its peer states with its robust and highly effective energy assistance programs. However, there is more room to advance affordability through the following recommendations:

- Extend its reach to more low-income customers to increase USF participation
- Consider developing bill assistance programs specifically designed for moderate-income customers.
- Consider moving the funding of the USF to the tax base as the fraction of customers requiring assistance is likely to increase.
- Consider exempting low-income customers from the New Jersey SUT to reduce the USF funding needs; The SUT revenue can be recovered as part of the state tax base, leading to a more progressive recovery
- Consider gradually moving away from inclining block rates towards more cost-reflective rate designs.
- Start testing TVR options with a goal to make these rates widely available to customers when AMI meters are fully deployed

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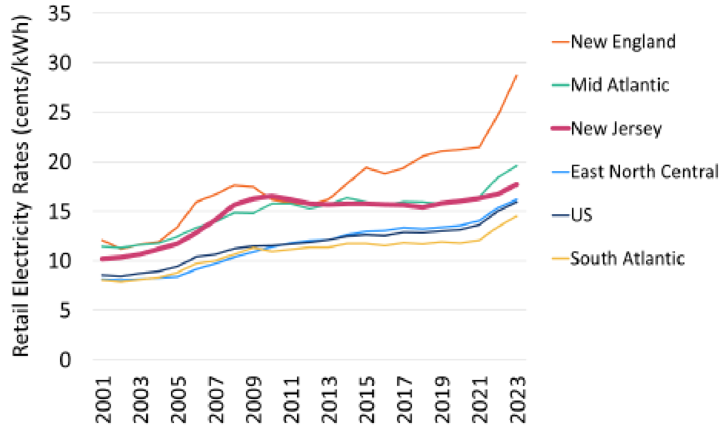
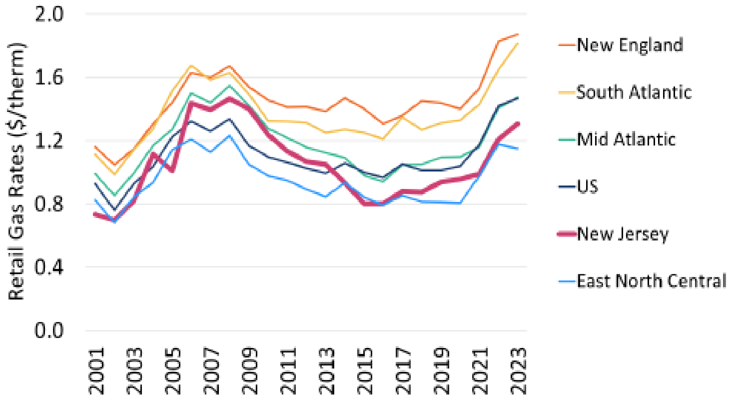
NJ Rate Trends

FIGURE 2: AVERAGE RESIDENTIAL ELECTRICITY RATES IN NEW JERSEY AND OTHER REGIONS[6]



Source: U.S. Energy Information Administration. Average Retail Price of Electricity, Accessed May 2024. Prices are in nominal dollars.

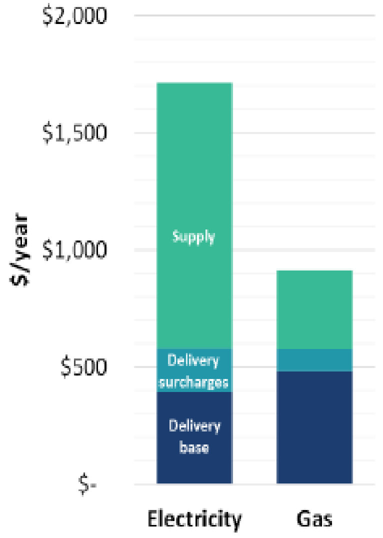
FIGURE 3: AVERAGE RESIDENTIAL NATURAL GAS RATES IN NEW JERSEY AND OTHER REGIONS[7]



Source: U.S. Energy Information Administration. Natural Gas Prices: Average Residential Price, Accessed May 2024. Prices are in nominal dollars.

- NJ's average all-in residential electricity rates have moved in a similar trend as those in other Mid-Atlantic states in the last two decades, although more recently trending lower than the Mid-Atlantic regional average
- New Jersey's average residential gas rates trended lower than the Mid-Atlantic and US averages as well as most other regions over the last decade, while following the similar gas commodity price trends observed across various regions in the United States

FIGURE 1: COMPOSITION OF AN AVERAGE NEW JERSEY RESIDENTIAL CUSTOMER'S ANNUAL BILL



- On average, 34% of the annual electricity bill covers the electricity delivery (including delivery surcharges) and while the remaining 66% covers the electricity supply
- For natural gas, 63% of the bill goes towards delivery charges, while the remaining 37% covers natural gas commodity costs
- The delivery portion is under the direct purview of the NJBPU, while the supply portion is broadly under the purview of FERC.