



# It's Electric!

## Analyzing the Region's Electric Grid



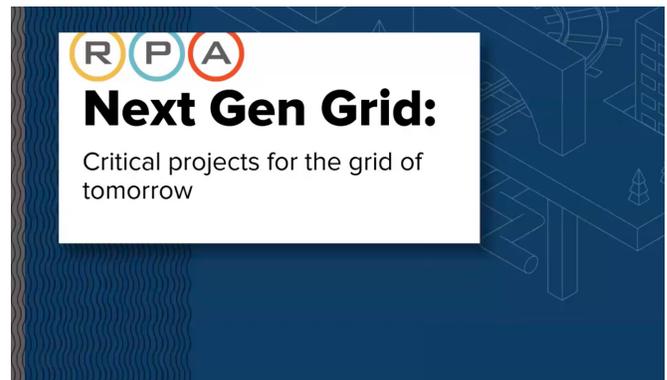
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Over the past year, RPA has taken a deep dive into our region's electric grid, analyzing its historic development, coming to understand current issues today, while looking ahead to necessary steps to make the grid reliable and resilient for the next generation.

As the region and the nation enter an era of increasing electricity demand from AI data centers and electrification of buildings and vehicles, the grid — and the process by which it is managed — is in considerable need of modernization. Supply has not kept pace with increasing demand, leading to rising costs, while existing infrastructure is decades old. Federal policy and outdated market structures are restricting the addition of new power to the grid, making the future uncertain. The following is a compendium of RPA's grid work to date, which will continue to grow as our research into this critical topic evolves.

### RPA PUBLICATIONS



### History of the Grid

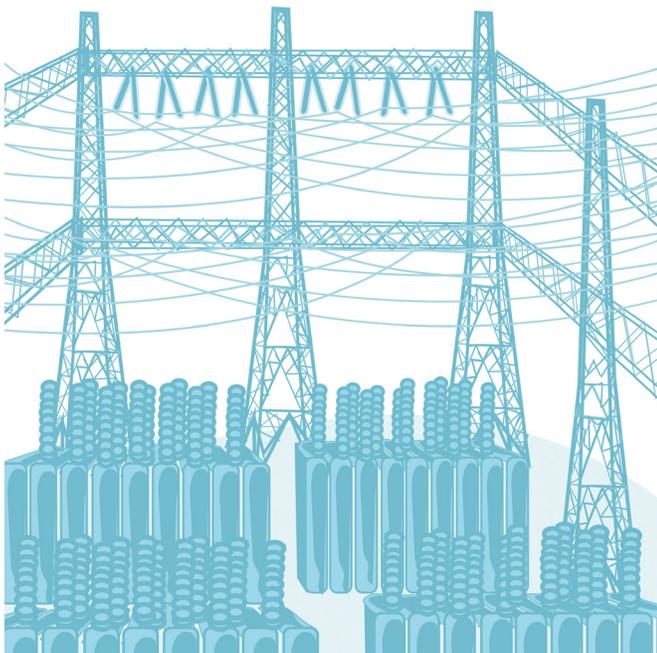
The U.S. electrical grid as we know it today is a massive network of machinery consisting of hundreds of thousands of miles of transmission and distribution lines and tens of thousands of substations and transformers. In 1882, the first power was delivered to New York City from the Pearl Street Station, kicking off the development of the modern electric grid as we know it today.

### Next Gen Grid: Propel NY Energy

The first in a series of webinars addressing the challenges facing our electric grid, this panel explored the historic development of the grid and the new era of transmission projects underway in the region, highlighting the Propel NY Energy transmission project in New York State.

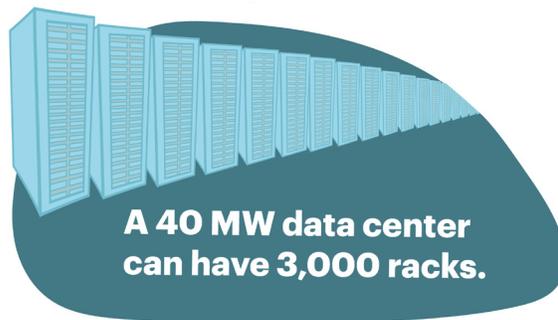
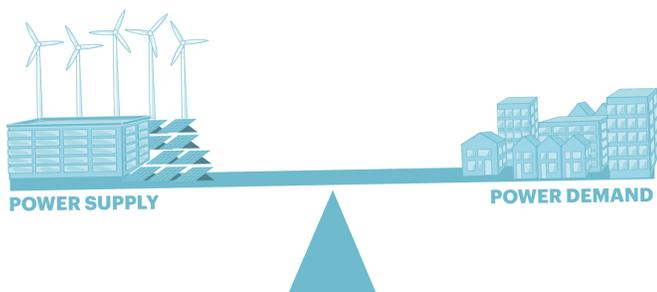
## Demystifying the Grid

Over 500,000 miles of transmission wires and millions of miles of distribution wires span the United States, connecting individual generating units with homes, businesses, and industry. This network of power plants and power lines is known as the grid, and is one of the largest and most complex machines humans have ever built. This lab post seeks to break down the different components of the grid as well as the governing regulatory structures.



## What's Happening with Electricity Rates in New Jersey?

In June 2025, the average residential electricity customer in New Jersey saw their monthly electricity bill increase between 17 to 20%. This post aims to understand what has driven the recent rate hikes by looking into the factors involved in setting rate prices, who is responsible for setting them, and what steps could be taken to avoid future rate spikes.



## The Rise of Data Centers and the Grid

Our energy system is undergoing a once in a generation shift in demand, the likes of which have not been seen since American homes purchased new household appliances en masse in the 1960s, 70s, and 80s. Grid operators, utility companies, and government agencies throughout the United States are forecasting a massive load growth over the next 25 years, largely attributed to two factors: the electrification of buildings and vehicles, and the addition of large load data centers needed to meet the increased use of cloud computing and artificial intelligence.

## Next Gen Grid: Transmission Troubles

The second in a series of webinars addressing the challenges facing our electric grid, this esteemed panel of policy, advocacy, and practitioner experts discussed the troubles plaguing offshore wind transmission and considered how advocacy and action can make our states offshore-wind ready, despite the current federal administration's actions.

## What's in an Electric Bill?

Electricity rates are soaring across the region and the country. Power demand from data centers, electrification, and other large-scale projects has increased exponentially, while growth in supply has not come close to keeping pace. This lab post seeks to break down what is in the average electricity bill, and show some of the largest drivers of price increases in the region.

**ELECTRIC BILL**

Your bill breakdown		Current balance due:
Total Usage:	600 kWh	<b>\$154.46</b>
Your charges:	\$154.46	
Billing period:	November 2025	

## THE STATE OF THE GRID IN NEW YORK, NEW JERSEY, AND CONNECTICUT

In this series of three reports, RPA references the publications above and examines the complicated grid in each state and the near-term reliability issues each state faces.