



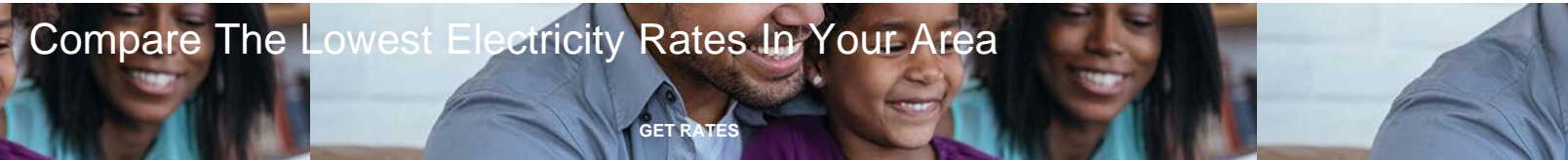
CALL TODAY 1-214-446-2210

RESIDENTIAL

COMMERCIAL

NO DEPOSIT

LOG IN



Home / Blog / How Have City Wide Electricity Grids Evolved



# How Have City Wide Electricity Grids Evolved

May 20, 2019 By jpignite

Electric companies have been supplying electricity to homes and businesses since the late 1800s. However, in those early days, there wasn't much of an organized electrical grid as there is today. It was a non-centralized mess of wires overlapping each other. Upstart electrical companies came and went, leaving discarded wires in their wake. Plus, electricity wasn't as readily accessible to the general public — electricity was typically for business owners and the wealthy. Two different types of energy systems, DC (direct current) and AC (alternating current) were competing to offer their electrical systems to cities.

The AC system, invented by Nikola Tesla, allowed high voltages to go across long distances. This system transformed high voltage

## CATEGORIES

- Alternative Energy
- Coal Energy
- Commercial Electricity
- Electric Companies
- Electric Vehicles
- Electricity Plan Reviews
- Energy Efficiency
- Fossil Fuels
- Gexa
- Home Page
- Natural Gas
- New York Electricity
- Nuclear
- Solar Energy
- Texas Electricity
- Texas Electricity Rates
- Uncategorized
- Wind



## FEATURED POSTS

- EIA Short Term Energy Outlook
- Could Texas See a Similar Blackout to California?
- Texas Customers Are Consistently Switching Electric Providers
- Are Electric Vehicles Still The Future? Many Think So
- How Plausible is an All-Renewable Electric Grid in the US?

## ARCHIVES

Select Month

to a lower voltage, making it a better choice for customers to use. This opened the door for utility companies to build electricity grids over larger areas.

# An Interconnected Electricity Grid

Telegraphs and light bulbs lead to telephones, radios, televisions and so on. The demand for electricity started to grow steadily by the time the 1950s rolled around. Luckily, by this time, electricity providers were getting better organized. Electricity grids were interconnected, which allowed for greater access to electricity, and also made electricity service more affordable to the masses. It was also during this time that America's centralized electrical grid improved. Over time, the electric grid has evolved to become the interconnected engineering marvel that it is today. The digital age has ushered in an instantly connected world, increasing the demand for electricity.

So what makes up the electricity grid? There are three main grids in the U.S. Two grids, the western and eastern interconnections, are connected to the Canadian grids. The third grid, Electric Reliability Council of Texas (ERCOT) serves most of Texas. The electricity grid includes four major components. First are the sources that generate electricity, which include fossil fuels like natural gas, coal and petroleum, as well as other sources like renewable energy. Fossil fuels make the most significant percentage. Fossil fuels are limited, and the steam and gas turbines that burn these fuels to generate electricity cause pollution. Cleaner electricity generators include hydroelectric dams, nuclear power, wind turbines and solar panels. Utility companies own the electricity generators, and they vary significantly in how they're distributed and used on the power grid. Many customers in Texas can choose whether they want to receive electricity from fossil fuels or a renewable energy source.

The second major component of the electricity grid is transmission lines. These lines can be installed overhead or underground, and these highly interconnected lines carry high-voltage electricity. They connect electricity generators to customers over long distances. The voltages transmitted are much higher than what you'll use in your home or business, so they're converted back to a lower voltage for use across the three main grids in the U.S. The TDU (Transmission Distribution Utility) maintains the power lines and responds to outages.

The third component on the electrical system is the distribution network. At this point, the transmission lines have reached the transformer. Electricity is transmitted to a network of local electricity distribution lines and passed through transformers in a step-down process to lower the voltage. The subtransmission customer receives a higher voltage (26 kV and 69 kV) and lowers the voltage to the primary customers (regional distribution substations), which in turn lowers the voltage to 120V and 240V for secondary customers (homes, businesses, schools, etc.)

Where the transmission grid ends is where the electricity reaches the consumer. This is the point where people use electricity in their daily lives.

# Electric Grid Evolving Like Modern Cities

According to the U.S. Census Bureau, more than 80 percent of the U.S. population lives in urban areas. Today's modern cities are transforming the way America's electric grid works. Modern cities are embracing new technologies, including the way electricity is generated, stored and transferred.

Spurred on by the energy crisis of the 1970s, Congress opened the door for competition in electricity production, allowing renewable energy to enter the marketplace. It has taken decades, but the shift from coal to cleaner energy sources is on the rise. In fact, the future of coal in the electrical grid is bleak. This is good news for cities choking on pollution due to coal-burning energy plants. Wind and solar energy are clean. The cost to make electricity from wind and solar is declining rapidly. Consumers in cities and rural areas are embracing renewable energy too. You'll find solar panels installed not just on the rooftops of homes, but also you'll also see them used for commercial and industrial complexes.

Alternatives like renewable energy sources are evolving America's electrical grid. The challenge many experts are facing is how to

make the stream of renewable energy power steadier. After all, there isn't always a stream of constant wind or solar power. And on days where there is a continuous stream, the electricity grid can't store all the energy, creating a surge of power that creates outages. We are continually evolving, and the future of the modern electricity grid is a work in progress.

Vault Electricity makes it easy for consumers in Texas to choose their electricity provider. We work with trusted [electricity providers](#), from traditional to green energy providers, and we display electricity rates in real time.

Leave a Reply

Your email address will not be published. Required fields are marked \*

Name \*

Email \*

Website

Save my name, email, and website in this browser for the next time I comment.

Comment \*

