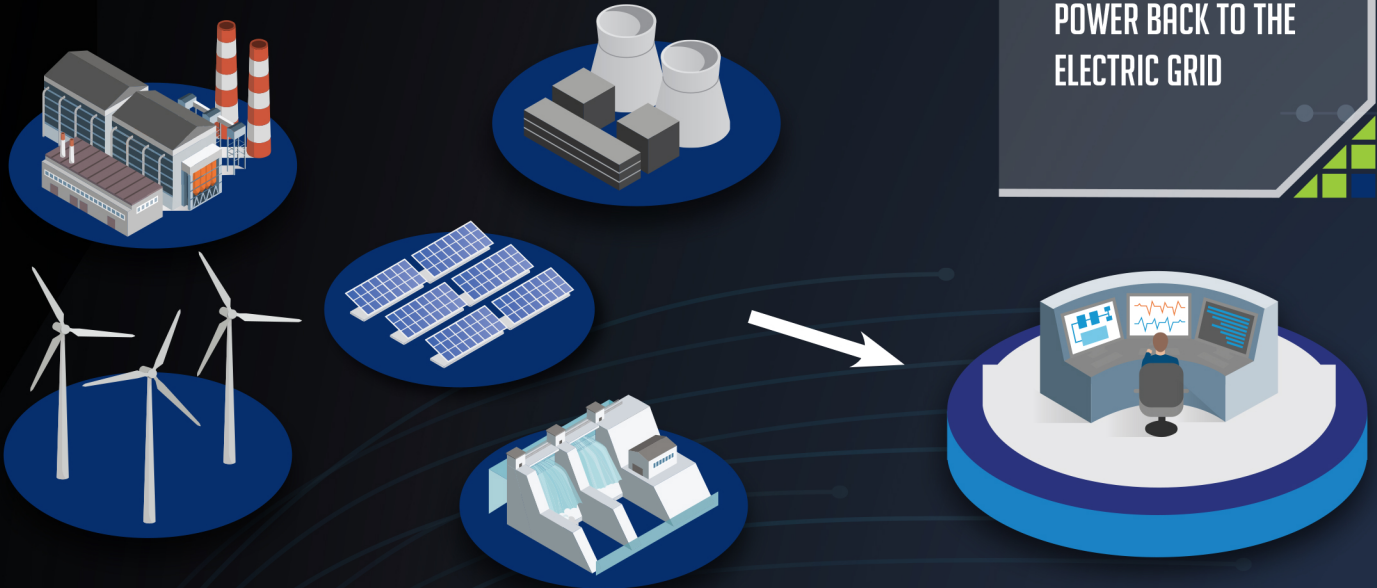


# NEW YORK'S COMPETITIVE ELECTRIC SYSTEM



# NEW YORK'S ELECTRIC GRID

• IN THE EVOLVING GRID, END USERS CAN CONTRIBUTE TO THE NEW YORK ELECTRICITY SUPPLY BY FEEDING DER POWER BACK TO THE ELECTRIC GRID

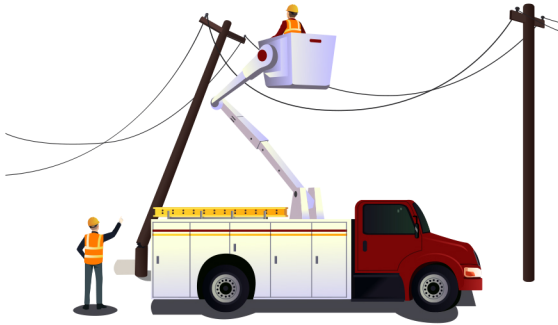


## • BULK POWER SUPPLY

IPPs compete to produce electricity as economically and efficiently as possible, utilizing a wide variety of natural resources and other technologies (such as water, wind, solar, natural gas, nuclear, energy-from-waste, and energy storage).

## • GRID OPERATOR

The New York Independent System Operator (NYISO) oversees the flow of electricity to maintain reliability and administers wholesale markets where electricity generators compete to sell their output to utilities and energy service companies for sale.



### ▪ UTILITIES

Utilities focus primarily on transmitting and distributing electricity and other customer functions. Since wholesale electric competition began two decades ago, most utilities in New York have sold their power plants to IPPs.

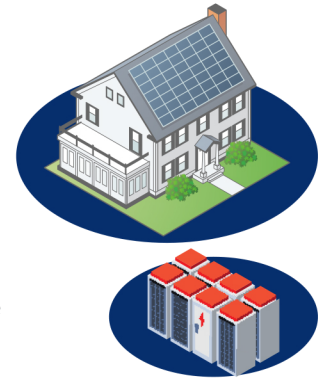


### ▪ ENERGY SERVICE COMPANIES (ESCO)

Businesses and consumers in New York can choose to receive electric service from an ESCO other than their local electric utility. ESCOs may provide a wide variety of services such as 100% green power, in addition to energy pricing plans designed to meet different needs.

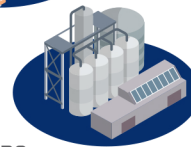
### ▪ DISTRIBUTED ENERGY RESOURCES

Customers may install small-scale generating facilities that will meet a portion or all of their electric needs and reduce demand on the electric grid. Increasingly such customers are providing power back on to the grid.



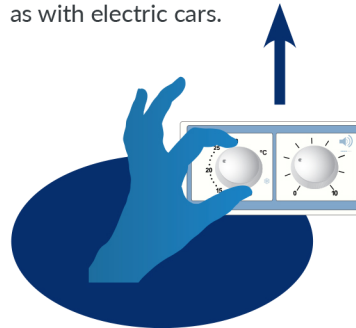
### ▪ BATTERY STORAGE

Batteries can be used to help maintain grid reliability by storing excess electric generation for use during periods of high demand and/or days with limited/no electrical production from solar and wind.



### ▪ END USERS

Industrial, commercial and residential users can choose the pricing and services that best meet their needs. Future grid innovation envisions end users being suppliers with power flowing both ways depending on time of day, such as with electric cars.



### ▪ DEMAND RESPONSE/ ENERGY EFFICIENCY

Customers can manage their energy costs by reducing consumption during peak demand periods.

# AN EVOLVING SYSTEM

During the 1990's, New York introduced competitive markets for the electric sector to improve power plant efficiency and reduce costs. Utilities divested from power plants, which are now owned by independent power producers (IPPs), but they still oversee the electric transmission and distribution system in New York.

**THAT SYSTEM CONTINUES TO CHANGE ...**



## MAJOR CHANGES TO THE ELECTRIC GRID

Public policy to address global climate change and consumer preferences for low carbon power continue to evolve the way the electric grid operates. Increasingly, New York will derive its electric power from large-scale renewables and distributed energy resources (DERs) such as small solar power, wind power and battery storage. DERs are located where power is consumed and, in some cases, feed excess power onto the grid for others to use. For grid operators, these trends create new challenges to maintain reliability when the sun isn't shining or the wind isn't blowing.



## BENEFITS OF COMPETITION

In the two decades since competitive electricity markets were introduced: emissions have been dramatically reduced; we have a more reliable, resilient and flexible electric system; and consumer costs have been lowered. The financial risk of investments is on the private IPPs — not utility ratepayers. In a competitive market, ratepayers are not on the hook for poor investment decisions if a developer chooses the wrong technology or location for new generation. Instead, ratepayers benefit from lower prices and increased reliability when new supply is sited where it is needed most. Market prices signal where new supply is needed or if an area has enough generation to serve its demand for electricity.

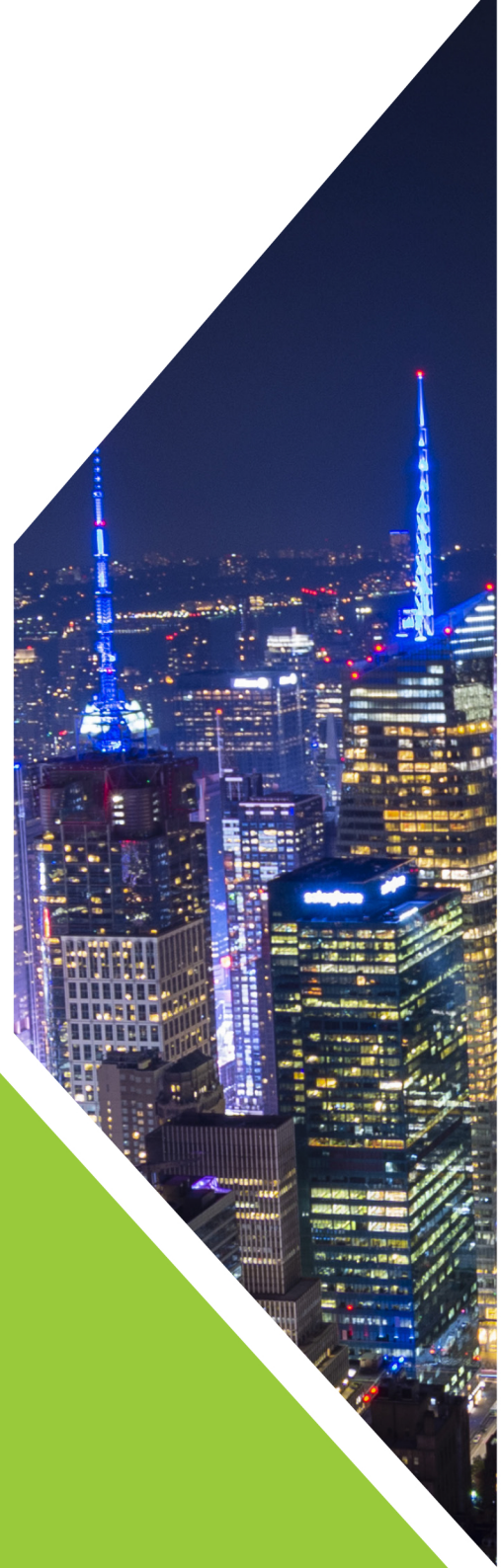
## HOW COMPETITION WORKS IN NEW YORK

New York's competitive electricity market is always at work for you – 24/7, 365. Every day, generators bid into the NYISO's markets until electrical demand is met. Only the lowest cost generation is purchased from IPPs, so they are constantly improving the efficiency of their operations.

Once electricity is generated and sold into NYISO's markets, it is resold to consumers, who can choose to get it from a traditional utility or an ESCO, whichever better meets their needs. Also, consumers can choose to generate their own electricity at their homes, businesses, or within their communities and sell any electricity they do not need back into the electricity grid.

## ELECTRIC SYSTEM PLANNING

The NYISO looks out over a ten-year planning horizon to ensure that supply and demand for electricity remain in balance. The NYISO also enforces rules developed by the New York State Reliability Council to ensure the electricity system is run safely and reliably.





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