"Uberizing" the Electric Grid

Edison International's Pizarro, NVIDIA's Huang discuss using AI to transform and improve the way power is distributed to customers.

A new industrial revolution is underway as companies rush to integrate artificial intelligence into their business. The game-changing, power-hungry technology is also transforming the electric power industry, fueling a rapid rise in demand for electricity.

One illustration of that demand: It takes 10 times as much electricity to perform a search with AI-powered ChatGPT than it does for a standard Google search.

How the electric industry will meet that challenge was front and center at the Edison Electric Institute's annual meeting in June. Edison International President and CEO Pedro Pizarro served as EEI chair for the past year.

Pizarro sat down with Jensen Huang, founder and CEO of **NVIDIA**, which has become one of the world's most valuable companies by market cap thanks to demand for its AI-enabling Graphics Processing Units.

"We are seeing electric demand, which has been fairly flat to low for many years, now really taking off. It's giving you an interesting perspective on the relationship between our sector and yours," Pizarro said.

"This is going to be the next driver of fairly significant energy consumption all around the world," Huang said. "Now the challenge is figuring out how to go and create that energy."

Just two years ago, grid operators estimated that efforts to increasingly electrify the economy would grow U.S. electricity demand by 2.6% over the next five years. The latest estimate has jumped to 4.7%, because of the added demands of AI, data centers and more manufacturing facilities returning to the U.S.

As the grid grows and integrates power from clean energy sources located far from population centers, as well as from rooftop solar panels and other customer-owned power sources, the job of connecting available power where and when customers need it increasingly will be managed using AI.

How AI Can Help Meet Growing Electricity Demand

The good news is that AI is likely to help meet that demand by balancing both supply and usage in more flexible ways. As the grid grows and integrates power from wind, solar and other **clean energy sources** located far from population centers where the power is used, as well as from rooftop solar panels and other power sources owned by customers, the job of connecting available power where and when customers need it increasingly will be managed using AI.

"In a lot of ways, all of your power grids today, which are really just distribution networks, are going to become smart networks like the internet. There's going to be a layer on top of it that's kind of like Uber, kind of like an app store," Huang said.

Just like Uber's app connects a rider seeking to reach a destination with a driver who can take them there at a specified time, a smart grid would connect a restaurant owner needing electricity at night with power that might one day come from a homeowner's EVs or a remote battery storage facility.

"I think the future for digital intelligence is quite high, and therefore the future for energy is quite high," Huang said.

Pizarro and Huang discussed the increasing cooperation between NVIDIA and electric companies on technologies including smart meters for customers and AI applications already in use for vegetation management, wildfire detection and proactively addressing customer concerns.

"I agree that the more we can use these tools to be more efficient, the better it is in terms of our overall mission to provide power reliably, safely, affordably and, importantly, making sure that it's clean power," Pizarro said.

During the three-day annual meeting, Maria Pope, president and CEO of Portland General Electric, was elected to succeed Pizarro as chair of EEI. Pizarro will continue representing EEI as co-chair of the Electricity Subsector Coordinating Council, working with EEI, other trade associations and the federal government to coordinate preparation for and response to extreme weather events and physical and cybersecurity threats to the grid.

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