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Can Utilities Prep The Market For A Deluge Of Electric Vehicles?

By **Ken Silverstein**, Senior Contributor. ⓘ Ken Silverstein covers global energ...



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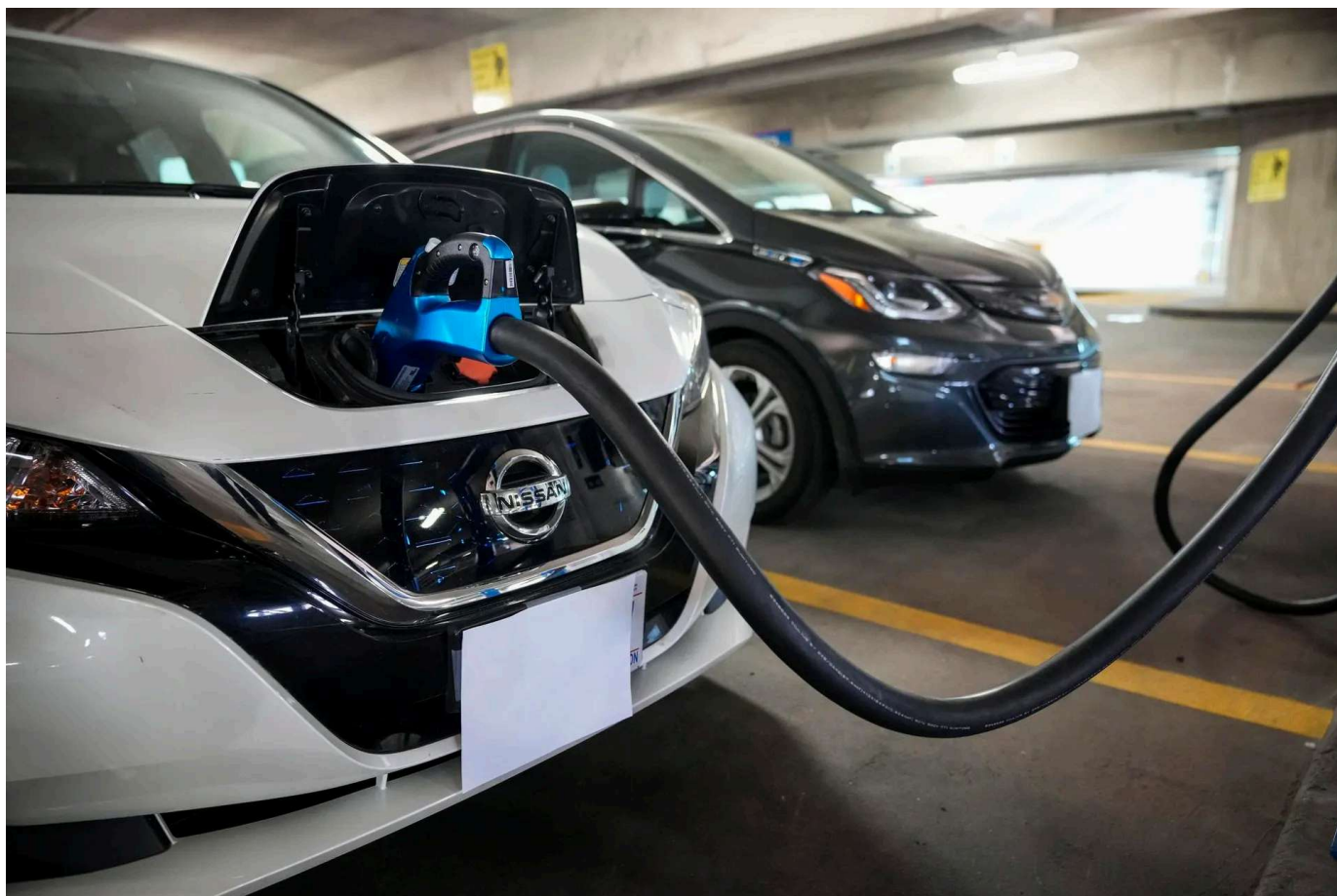
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The [Edison Electric Institute](#) projects 26.4 million electric vehicles in 2030, giving utilities new revenues but putting pressure on them to make substantial outlays. They have already invested over \$3 billion into the charging infrastructure, with nearly \$1 billion in underserved communities.

The goal is to build the charging infrastructure to at least 10 million new ports to meet the demand. And the wires must handle the increased traffic, requiring utilities to invest heavily in the transmission and distribution infrastructure.

“Getting the market ready is important for adoption,” says Lon Huber, senior vice president Duke Energy [DUK-0.2%](#) during a symposium held by the [United States Energy Association](#) where this reporter was a panelist. “That is what we do. We are planners. We’re infrastructure experts: we operate the grid, which literally wraps around the world many times. Think about the expertise that’s required to maintain something like that. We need policies that utilize the expertise utilities have honed over 100 years, bringing it to the infrastructure market to ensure it’s equitable and reliable so they don’t revert to the internal combustion engine.”

The major car companies are expanding production of their electric vehicles, including BMW, Ford, General Motors [GM-1%](#), Nissan, Toyota, and Kia.

To get there, the [U.S. Department of Energy](#) says that the transmission and distribution network must expand by 60% by 2030 — and to triple by 2050. The Edison Electric Institute says it is ahead of the game, working with policymakers and various stakeholders to make this happen.

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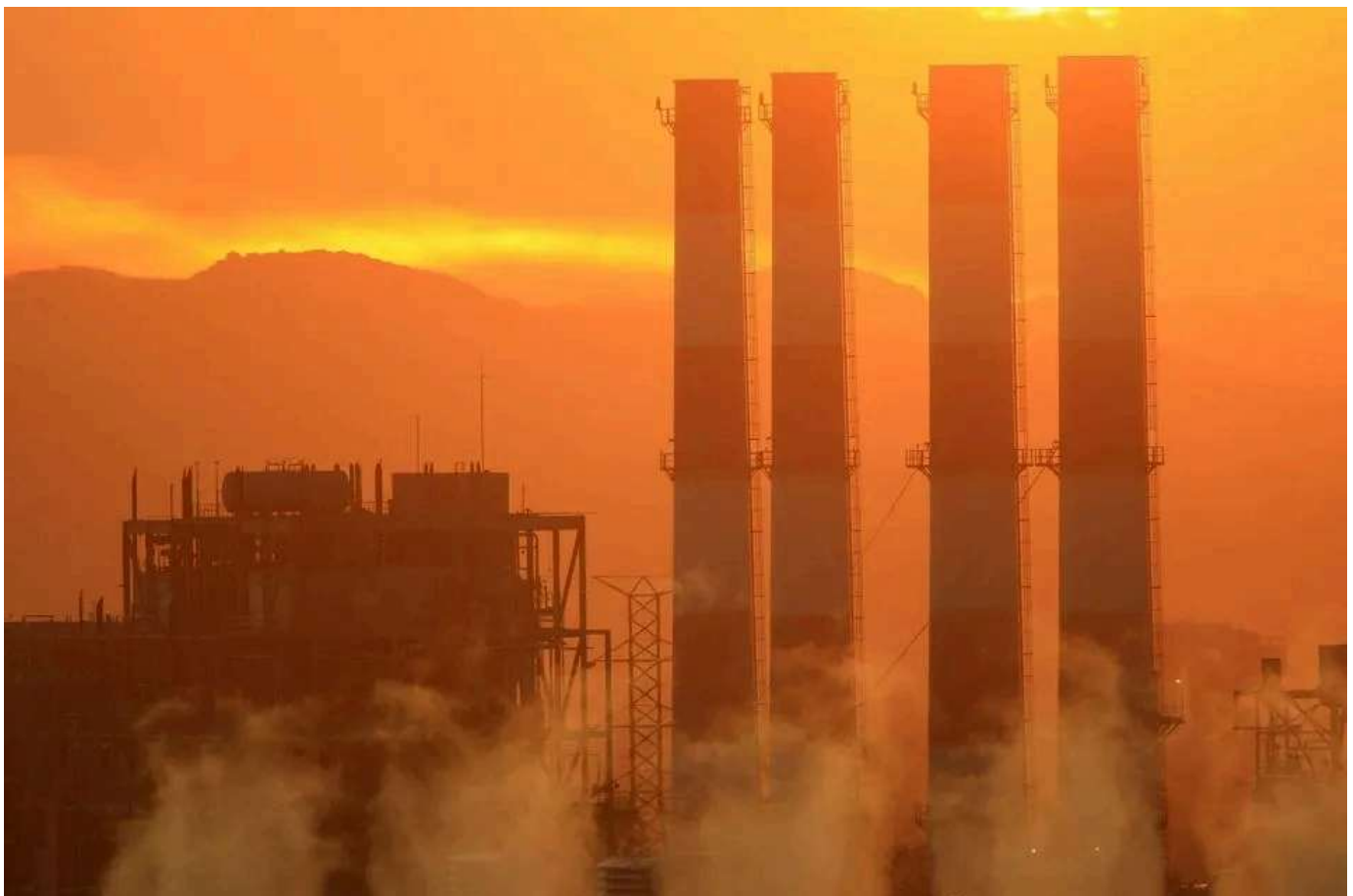
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The [REPEAT Project](#) says that if the transmission grid fails to develop more than 1% yearly, it will increase U.S. greenhouse gas emissions by 800 million tons annually by 2030. Stated differently, if the grid doesn't grow, the goal of the Inflation Reduction Act will go unrealized, losing more than 80% of the emissions gains. That hurts wind, solar, and electric vehicles. To hit net zero, the grid must grow 2% to 3% yearly.

How Do EVs Compare to Traditional Cars?



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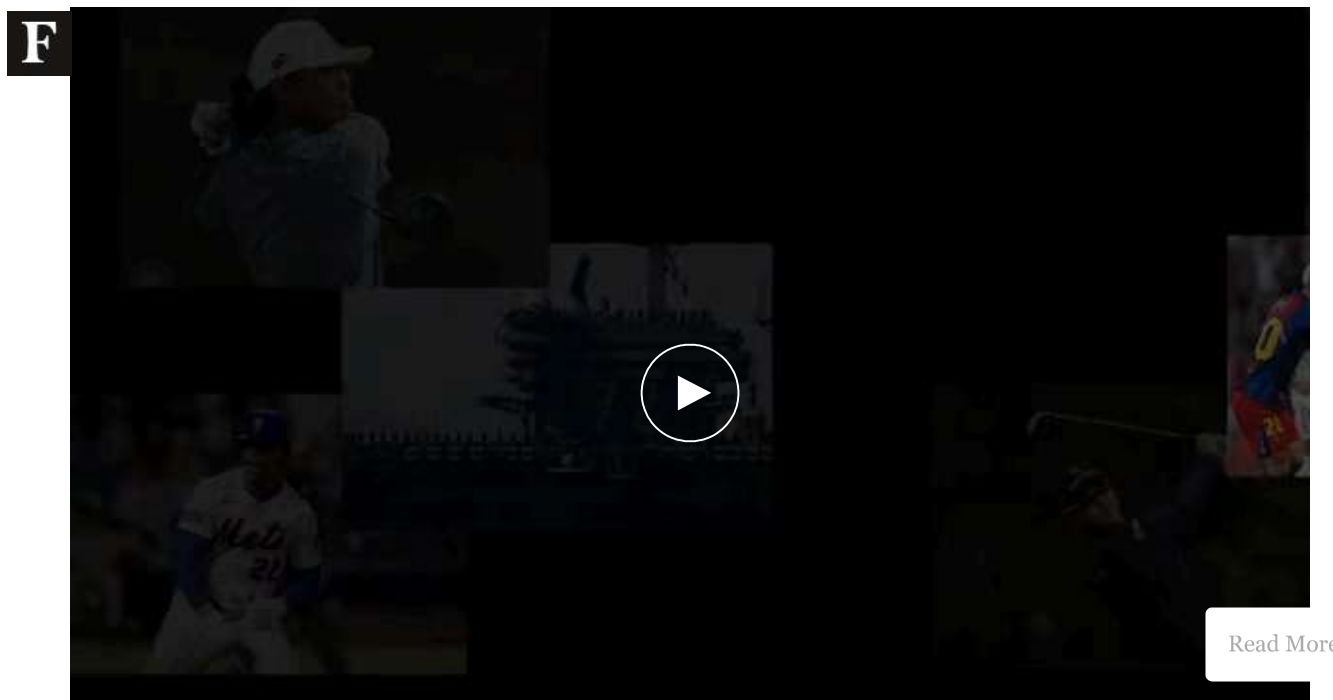
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[Wood MacKenzie](#) says battery technology is advancing and the devices will hit an inflection point in 2027 — when price and quality are improving expeditiously.



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“ConEdison has fully leaned into supporting the ambitious, clean energy goals of New York State and the city, and we've set ambitious targets of our own through our clean energy commitment,” says Britt Reichborn-Kjennerud, director of e-mobility for the utility. “With nearly a third of the carbon emissions in New York State due to transportation, this sector cannot be ignored. We do have a very robust grid planning process. But we're also thinking about more proactive ways to plan for these loads to support this transition.”

She notes that managing the charging times through demand response programs or time-of-use rates will push EV owners to juice up during off-peak times. That will reduce infrastructure needs, helping manage everyone's costs.

“One of the nice things about electric vehicles is that folks charge the batteries to 80%, or even higher, overnight,” adds Phil Dion, a senior vice president for the Edison Electric Institute. They avoid the busiest times, making the entire electrical system more efficient and reliable.

But what about the efficiency of the lithium-ion battery compared to the internal combustion engine? According to the [Union of Concerned Scientists](#), electric vehicles are much cleaner than gasoline-powered cars. It found that EVs create the same level of heat-trapping emissions as a car that gets 88 miles per gallon — which doesn’t exist; the most efficient vehicles get 58 miles per gallon, while the average one gets 31 miles per gallon.

And EVs will only get cleaner relative to the internal combustion engine. That’s because the emissions rate between 2016 and 2018 fell. After all, power plants are getting cleaner, and more coal plants are retiring. And the more EVs on the road, the healthier the air. And as batteries get better and cheaper, the clean factor keeps compounding.

The Race to Net Zero



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Utilities have long been slow to the starting line. Now, though, they have a chance to accelerate the race to net zero — and to burnish their brands.

“Only 10% of people responded that they were likely to seek out information from their utilities about electric vehicles,” says Erin Autin, senior director of research and content for Zpryme. “So I think there’s a good opportunity for utilities to do a better job of engaging with their customers and partnering with technology companies.”

How are oil companies reacting to this phenomenon — a threat to their legacy business plans? Bloomberg New Energy Finance, Wood Mackenzie, and BP have predicted that oil’s relevance in the transport sector will wane as EV interest picks up. In the most extreme case, BP says global oil demand will decline by 80% by 2050. Its “business-as-usual” case falls by 10% during this time. Otherwise, expect a 50% drop.

Jigar Shah, director of the loans program office at the U.S. Department of Energy, told an earlier panel hosted by the [United States Energy Association](#), that electric vehicles relieve producers from finding oil in depleted or risky places. As a result, oil companies are not a serious obstacle to change. Moreover, they are diversifying their portfolios and making green investments.

Some of them are actively engaged in the electrification market, buying green enterprises or taking stakes in the wind, solar, and battery makers, says Kyle Pynn, director of transportation electrification for Burns & McDonnell. Others focus on blue hydrogen or using natural gas as a feedstock to create hydrogen used in the clean economy. Moreover, their customers demand greener fuels while their shareholders want them to disclose their environmental risks.

“We’re finding that the major oil companies have taken a look over the fence, and they realize there is an existential crisis coming: EV adoption will make the internal combustion engine a thing of the past,” says Pynn.

Policymakers are generally supportive: the European Union is phasing out the internal combustion engine by 2040, while the Biden Administration wants half of all U.S.-sold vehicles to run on electricity by 2030. If electricity can replace gasoline, that would help countries meet their climate goals.

And thus, the utility sector supports the electrification of the economy. It requires companies to invest in their networks and charging infrastructure, which will pay big dividends for them and their customers, communities, and shareholders.

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