



Transportation electrification: Where we're going and how we got here

By Bryan Jungers

September 26, 2023

When it comes to transportation electrification (TE), most utilities have been in hurry-up-and-wait mode for the past few decades. While [EVs](#) aren't new, and the pressure to prepare for EVs isn't new, there have been so many false starts that it's hard for utilities to be sure that this time it's for real. As a long-time industry watcher, I believe it's for real, but the time frame remains in flux.

At E Source, we've followed the market for EVs and TE for many years. And we're just beginning to have this [next wave of conversations about transportation electrification](#) with our utility clients. There's a new sense of urgency, but also uncertainty. In this regard, it helps to understand how history has shaped the utility response to TE over the years.

Lessons from TE's past to guide its future

We need to learn from prior experiences deploying charging infrastructure and early utility efforts to design and implement customer EV programs.

Read more in Bryan's article [6 lessons from transportation electrification's past to guide its future](#), published by Utility Dive.

[Read the article](#)

A brief history of EVs

The [first EV](#) debuted in the 1890s. By the turn of the 20th century (that is, 1901), EVs accounted for a third of all vehicles on the road, with sales remaining strong for the next decade. But the market for EVs dried up for several reasons:

- The availability of less-expensive, mass-produced, gas-powered cars
- An improved system of roads
- Cheap fuel
- Limited electricity outside of the largest cities

Fast forward to the oil crisis of the 1970s, with gas prices soaring and ongoing shortages, and EVs looked like a good idea again. The US government funded R&D, and automakers began exploring alternative-fuel vehicles like EVs. But gas prices leveled, and urgency around reducing dependence on foreign oil dissipated. In addition, EVs produced at this time had performance and range issues.

In the 1990s, new top-down federal and state regulations arrived (mostly in California) to reduce tailpipe emissions and improve urban air quality. Automakers began to electrify some existing gas-powered models. And GM built the first commercial EV from the ground up: the EV1.

Even so, automakers lobbied against these top-down mandates and sued the state of California by arguing that there was no market for EVs because they were too expensive to build. Many Americans voted with their wallets for big SUVs and pickups over fuel efficiency and emissions reduction. In fact, E Source dedicated the [first episode](#) of its podcast, [PowerTalking](#), to the question, Who killed the electric car?

If your path isn't clear on your EV journey, we can help lead the way

Fill out this short form to start a conversation about your needs and how we can help.

The bottom line:

- EVs aren't a new phenomenon.
- We've had decades (a century, really) to see that EV technology isn't going away.
- Don't panic! It took a long time to get to where we are today, and it will take a while to reach 100% TE.

But make no mistake, transportation *will* electrify.

In fact, it's already happening. EV technology has improved dramatically in recent years. Costs have declined and there are many proven EV products in the market. Moreover, consumers are familiar with EVs, and sales have increased significantly over the past few years.

The good news for utilities is that [it's not too late to prepare and engage](#). For example, does your utility offer a special EV rate but you're not sure if all of your EV-driving customers are aware it's available to them? Our OneInform models can help you [identify customers who own EVs with AMI meter data](#) so that you can better support them.

Why should you care what I think?

Did you know that back in the '90s, Rocky Mountain Institute (RMI) cofounder Amory Lovins originated the idea for the Hypercar—a novel approach to auto design featuring an ultralight, aerodynamic chassis with a hybrid drive engine? And did you know that E Source was RMI's funding arm at the time?

We do a lot of forecasting at E Source, but the most important forecast to remember when planning for TE is that it *will* happen. This isn't a scare tactic; it's reality.

Chances are you didn't. And most people don't know that RMI founders Amory and Hunter Lovins started E Source in 1986 to help utilities help their customers with energy efficiency and conservation. Since then, E Source has partnered with utilities to tackle big challenges—from environmental responsibility, resilience, and reliability to [electrification](#), mobility, [energy equity](#), and more.

E Source has been active with EVs for more than 25 years. I, personally, have spent nearly 20 years helping utilities understand the EV landscape and what's coming next. In 2009, while a student at the University of California Davis, I titled my master's thesis "The Evolution of Sustainable Personal Vehicles," and I've never looked back.

Today it's my job (and my passion) to help utilities understand where the market is right now; where it's headed; and what they can, should, and need to do to deliver TE at scale in a way that benefits all stakeholders.

We do a lot of forecasting at E Source, but the most important forecast to remember when planning for TE is that it *will* happen. This isn't a scare tactic; it's reality. I'm in the business of helping utilities figure out what's next and what to do about it, and I'm looking forward to the work we'll do with the new E Source [Mobility Service](#) and E Source [TE Insights](#).

TE Insights: A new tool for tracking TE plans, programs, and spending

TE Insights organizes the data from utility TE plans, EV-specific rates, and customer rebates into one easy-to-navigate platform. With TE Insights, you can:

- Better understand how peer utilities are allocating their TE budgets
- Track TE goals and results
- Find TE language that can support your own filings
- Compare EV-specific rates and incentives

[Learn more](#)

Changing market dynamics, new policies, and incentives will continue to influence many of the *details* of how TE evolves, but what isn't changing is that it's a coming certainty. While the planning window isn't exact, it's limited and closing fast. The time to prepare is now. Unlike in the past, we have many more resources to work with—from an influx of funding to more-sophisticated data modeling and even the plans of peer utilities—that will make TE planning more efficient, effective, and impactful.

The story doesn't end there! Check out my article [6 lessons from transportation electrification's past to guide its future](#), published by Utility Dive, for even more information.