

GM partners with utility company to test EVs for emergency power

Article

The news: GM and Pacific Gas and Electric Company (PG&E) will pilot a program to test using the automaker's EVs as backup power sources to bolster Northern California's power grid during blackouts, [per](#) Bloomberg.

- The pilot will begin in a PG&E lab before running in a few homes later this year.

- California is home to **25.1% of the nation's EVs**, per ABC News, and **one out of every five EVs** in the US are in PG&E's jurisdiction.

EVs to illuminate the darkness: PG&E began implementing routine rolling blackouts in 2018 as a safety precaution against utility wires contributing to California's intensifying wildfire seasons. The state had the nation's third most power outages in 2021, behind Texas and Louisiana.

- The program is based on **bidirectional charging technology** in which power can flow from the grid to the vehicle (**G2V charging**) when there's an energy surplus and from the vehicle to the grid (**V2G**) when demand exceeds supply.
- GM plans to offer bidirectional charging in the Ultium battery platform that it will feature in over a million of its EVs by 2025.
- Several **Tesla** models, **Nissan Leafs**, and **Nissan e-NV200s** currently offer V2G charging, and the **Ford F-150** and all **Volkswagen** EVs will potentially get the capability soon.
- The pilot will join bidirectional hardware and software to automatically coordinate power flow between the EV and residence for ease of use.
- **Nuvve** and **Swell Energy** have partnered on V2G integration technology.

The bigger picture: With EV adoption expected to soar in the next few years, there's concern that power grid infrastructure isn't ready. Bidirectional charging systems that customers can easily tap into would help alleviate the constraints.

- About **70 people** die every year from carbon monoxide poisoning from portable generators, and thousands more are injured, per NBC. Switching to EV batteries as backup during outages could save lives.
- Estimates show that a fully charged **Chevy Bolt** can power the average California home for **three days**, but if the battery were depleted during an emergency evacuation, people might not be able to flee.
- As Russia is a major supplier of nickel, a required component for lithium-ion batteries used in EVs, the war in Ukraine could drive up EV prices and rein in adoption.

Key Reasons for the Low Uptake of Electric Vehicles (EVs) in the US According to US Auto Dealers, April 2021

% of respondents

Charging infrastructure/range anxiety

29%

Appropriate pricing

24%

Consumer awareness

15%

Technological capabilities of recent premium EVs vs. Tesla

11%

Manufacturer marketing strategies

9%

Lack of options

7%

Government subsidies

6%

Source: J.P. Morgan, "Auto Annual Dealership Survey," April 6, 2021

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