

Electric Vehicle Smart Charging Pilot Results
General Report

Published: August 2025



In January 2023, FortisAlberta launched its Electric Vehicle (EV) Smart Charging Pilot, an initiative aimed at exploring how smart charging can help manage electricity demand and reduce stress on the grid. The pilot ended in June 2024, with nearly 320 EVs participating from 57 communities across our service area.

What was the pilot about? Why it matters

The pilot focused on understanding how customers charge their EVs and how FortisAlberta can manage that demand in the future. We assessed two approaches:

Time-of-Use (TOU) Charging: Offering incentives for charging during off-peak times (like overnight) to shift demand.

Managed Charging: Using technology to automatically adjust charging times and reduce strain on the system.

Key findings

Participation: Customers in both groups were willing to adjust their charging habits, helping lower demand during peak periods.

Smart technology wins: Managed charging effectively reduced charging peaks across the day, with minimal inconvenience to customers whereas TOU can create a secondary peak at the onset of the incentive window. Participants only opted out of managed charging sessions 44 times out of a total of more than 5000 events showing strong trust in the system.

Make customer participation automatic to grid events: In simulated high-demand grid events, customers in the managed charging group who were enrolled automatically in the demand response events stopped charging their vehicle 97 per cent of the time, compared to 9 per cent for the TOU group who had to press a button to stop their vehicle from charging. This highlights the value of automatic enrolment in demand response events.

Satisfaction: Participants gave the pilot a satisfaction rating of four out of five stars.

Smart charging isn't just about convenience, it's a proactive way to optimize our existing grid infrastructure without costly upgrades, ensuring reliable electricity for everyone. As EV adoption grows, programs like this can help balance electrical demands and reduce the risk of outages.

Next steps

FortisAlberta is using the insights from this pilot to explore future managed charging programs and inform policy makers about Demand Side Management (DSM) opportunities in Alberta. We're investigating and advocating for solutions that are both efficient and customer friendly.

