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Planning Growth for a 50-Vehicle EV Fleet

Converting an ad-hoc process into a funded plan for **aggressive decarbonization** goals.

Context

In a mid-sized city outside Denver, CO, a fleet of about 50 electric vehicles operates across multiple departments including utilities, parks and recreation, engineering, and transit. With a total of about 1200 vehicles, this city plans to transition as many as possible to EVs over the next few years. Their overall goal is to reduce fleet emissions by 80% in 2030.

The city's utility department uses a distributed energy resource management system (DERMS) to deploy sophisticated load management tactics to shift load to off peak hours or when there are more renewable energy sources available. But the roughly 70 EV chargers scattered across the city's maintenance depots weren't connected to this system to manage charging.

Instead, the EV fleet had grown via one-off purchases and installations, none of which were tracked for management or intra-department billing. The city purchased EVs when they could and installed chargers near buildings where the EVs parked. They knew this ad-hoc approach was not sustainable for efficient management or their aggressive growth plans.

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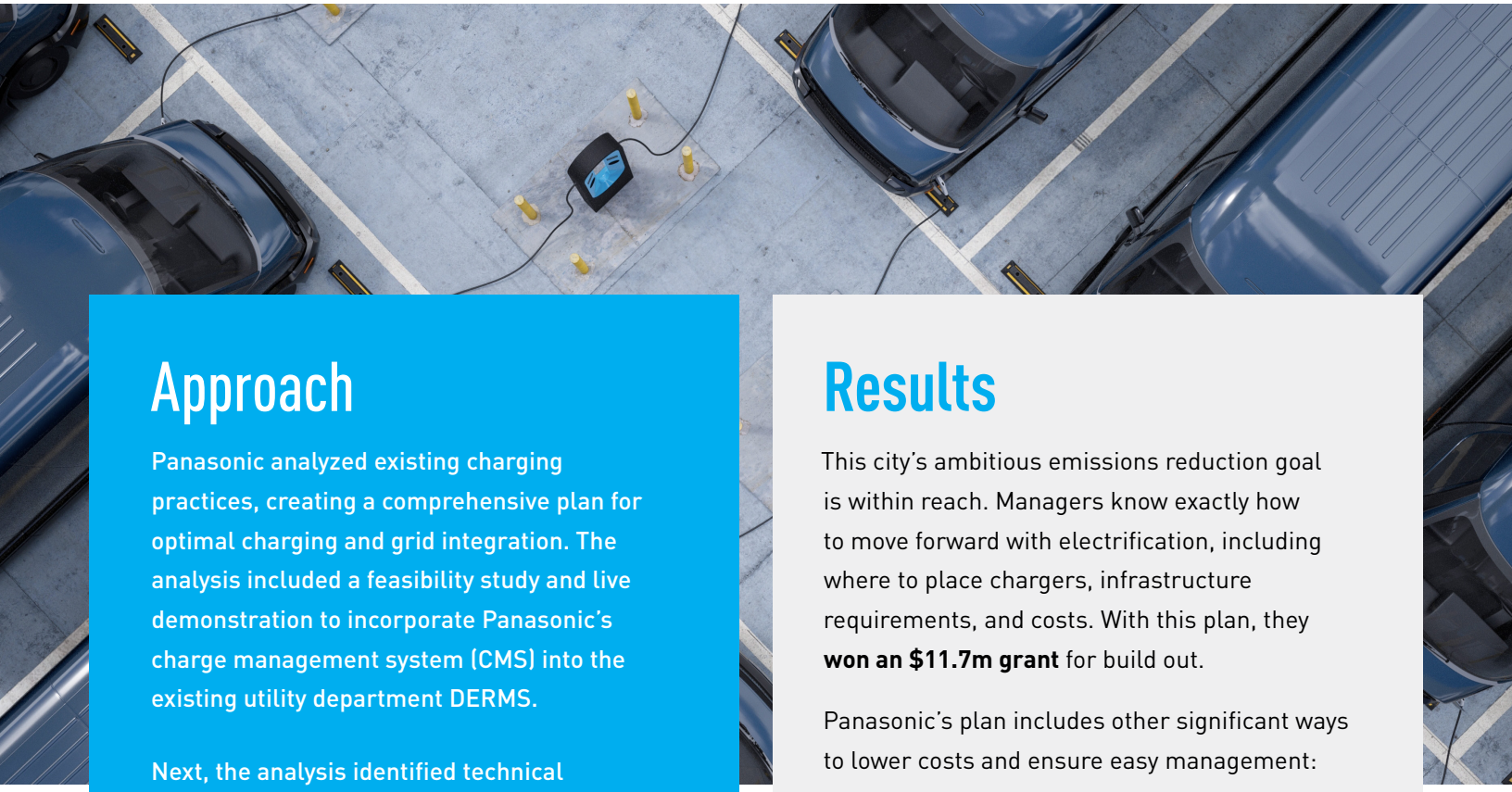

Approach

Panasonic analyzed existing charging practices, creating a comprehensive plan for optimal charging and grid integration. The analysis included a feasibility study and live demonstration to incorporate Panasonic's charge management system (CMS) into the existing utility department DERMS.

Next, the analysis identified technical requirements for future vehicle and charger purchases to ensure they would integrate smoothly. Panasonic also determined program value by measuring potential charge management cost savings and other benefits for department ratepayers.

Finally, Panasonic explored grants and public/private partnership options for deployment funding.

The city received a plan outlining what charging hardware they will need, where to put it, and how to optimize and fund fleet electrification for the best value.

Learn more about Panasonic's eFleet solutions:

https://mobility.na.panasonic.com/e-fleet-solutions

Results

This city's ambitious emissions reduction goal is within reach. Managers know exactly how to move forward with electrification, including where to place chargers, infrastructure requirements, and costs. With this plan, they **won an $11.7m grant** for build out.

Panasonic's plan includes other significant ways to lower costs and ensure easy management:

- Forecasting shows that the city will **avoid upwards of $800,000 per year** by optimizing EV charging rates.
- The CMS works across other platforms and vendors so that the city has choice and buying power.
- With DERMS integration, managers can apply the same sophisticated methods used for city load management to electric vehicle charging.
- By monitoring charging operations, the city can now ensure high reliability and uptime.
- CMS integration allows the city to bill electric charges to different departments on the same platform already used for combustion-engine vehicle fuel billing.