

An open letter to Nissan LEAF owners from Carla Bailo, senior vice president, Research and Development, Nissan Americas:



At Nissan, we consider ourselves fortunate to have such passionate and engaged customers—especially within our LEAF family. Recently, we learned from the Nissan LEAF community—and specifically from some Phoenix-area LEAF owners—of a growing concern about battery capacity loss with their electric vehicles. In fact, the MyNissanLEAF online owners' forum—a resource that allows owners to share their experiences and discuss EVs—helped bring the concern to our attention for which we're appreciative.

The forum's discussion around battery capacity loss has reached a point where I feel it important to personally address what is being debated, to provide Nissan's viewpoint and, most importantly, to explain the actions we are taking to work with owners.

First, it is important to stress that while battery capacity loss incidents represent only a handful of cases, we are taking them—as well as the concerns of the larger LEAF family—very seriously. Battery capacity loss of the levels reported may be considered normal depending on the method and frequency of charging, the operating environment, the amount of electricity consumed during daily usage and a vehicle's mileage and age. But the only way to know for sure is to examine customer vehicles, perform a thorough diagnostic on the vehicle and battery, and better understand the real-world driving and charging history of the owners. We are now reaching out to individual owners to start this process to ensure that we fully understand these events and all potential causes, and pledge to provide an update as soon as possible.

Battery data collected from Nissan LEAFs to date currently indicates that less than 0.3 percent of Nissan LEAFs in the U.S. (including vehicles in service dating back to December, 2010) have experienced a loss of any battery capacity bars. Overall, this universe of vehicles represents a very small fraction of the more than 13,000 Nissan LEAFs on U.S. roads. Also, data received globally from other LEAF vehicles shows that this condition typically occurs to high-mileage cars or those in unique operating situations.

Second, I want to explain battery capacity, how it is affected by the operating environment and usage patterns and what is considered normal battery health. All lithium-ion batteries lose capacity with use and age. This is normal and expected. In general, lithium-ion batteries exhibit a higher loss of capacity early in life, with the rate of loss decreasing over time. Nissan has projected that LEAF batteries will generally have 80 percent of their capacity under normal use after 5 years, and 70 percent after 10 years.

Are there factors that could negatively affect this performance curve? Yes. A customer's method and frequency of charging, operating environment, the amount of electricity consumed during daily usage and a vehicle's mileage and age can all affect the rate of battery capacity loss. Until we know more about each customer's unique situation, it would be premature to declare what is happening with the Nissan LEAFs in Phoenix, and whether their performance is within the range of expectations or not. Working closely with our owners to get to the bottom of these concerns is exactly what we're committed to do.

Nissan engineers from our Arizona Testing Center and around the world will study each customer case, work to discover the root cause and will determine next steps to satisfy our

customers. While we do this, we pledge to provide an update to our customers as soon as possible.

Together, we are confident that by collaborating with our LEAF community—including the more than 400 owners in Arizona—we will ensure that owners experience many years of enjoyable driving as EV pioneers.

Thank you for your passion for the Nissan LEAF and the electrical vehicle movement. It is only through your dedication and willingness to innovate that we are able to bring zero-emission mobility to the mass market.

Kind regards,

Carla Bailo
Senior Vice President, Research & Development
Nissan Americas