Cape Fear Public Utility Authority

Environmental Management & Sustainability

Low Emission Vehicle Program

As a water and wastewater utility providing life-sustaining services to approximately 200,000 people in the Wilmington area, we take the potential effects of climate change seriously. In addition to planning resiliency into our operations to support continuous services in the face of intense and frequent storms, we are also taking responsibility for the greenhouse gas (GHG) emissions we produce. Our ongoing climate mitigation efforts include the creation of internal policies and programs that reduce or offset our GHG emissions. The Low Emission Vehicle (LEV) Program is part of this effort. Replacing standard gas vehicles with LEVs is a relatively quick and effective way to substantially reduce organization-wide GHG emissions, as well as contribute to improved local air quality.

To make this program official, staff created a Low Emission Vehicle (LEV) operation procedure in 2019. This procedure guides the expansion of the LEV program and standardizes the emission tracking process in our fleet. Implementing this procedure clarifies logistics associated with introducing new LEVs to the fleet and ensures consistency in emission reduction tracking as CFPUA replaces gasoline vehicles with LEVs. Per the procedure, new LEVs can be added to the CFPUA fleet in three ways: by replacing old vehicles when the vehicles are due for replacement, by replacing the vehicle after being involved in an accident that "totaled" the vehicle, or by adding a new position that requires a vehicle.

CFPUA currently has three LEVs, one fully electric vehicle and two plug-in hybrid electric vehicles (PHEV). The Lab Division uses a 2021 Chrysler Pacifica PHEV to take water quality samples in the community and at different CFPUA facilities. Staff in Meter Services use a 2018 Kia Niro PHEV, while CFPUA's Water Treatment Operations Supervisor at the Richardson Water Treatment Plant uses the fully electric Nissan Leaf.

The Nissan Leaf was purchased in November 2020 and is driven for daily trips ranging from 25 to more than 125 miles throughout CFPUA's service area. Between December 2, 2020 and May 2, 2021, the Leaf traveled about 2,195 miles and used approximately 589 kWh in electricity, totaling 345 pounds of CO_2 emissions. These trips were previously made in a 2016 Jeep Wrangler, a vehicle that would have used over 129 gallons of gasoline and emitted over 2,529 pounds of CO_2 to drive the same distance. As a result, switching to the Leaf saved approximately 2,182 pounds of CO_2 emissions. This is equivalent to avoiding the CO_2 emissions from burning 1,094 pounds of coal.

Staff indicated the most notable benefits of the Leaf are its reduced noise, time saved from gas stops, and comfort. The battery charge has been reliable thus far and presented no challenges in travel. As the market for electric vehicles continues to grow, we expect to be able to integrate additional electric vehicles into the fleet in the future as part of the normal fleet replacement program.

CFPUA's 2020 Nissan Leaf