

# Light-Duty Fleets



Fleet vehicles are all around us. From supporting our towns and cities to shuttling our packages and mail to making sure our campuses run smoothly, fleets have a tremendous impact on our daily lives. Today, many organizations are electrifying their fleets to take advantage of financial, environmental and operational benefits.

## Benefits

### Cost Savings

**Fuel:** Running on electricity is cheaper than gasoline — about the equivalent of paying \$1.10 per gallon of gasoline in North Carolina and Virginia.<sup>1</sup> Electricity is also locally generated, and prices have historically been more stable than gasoline.



**Maintenance:** Electric vehicles contain a fraction of the parts of their internal combustion engine counterparts. Therefore, they cost less to maintain and don't require common scheduled maintenance, like oil changes.

**Total Ownership:** Between fuel and maintenance savings, electric vehicles can save you thousands of dollars over their lifetimes, which can be invested back into the community or your organization.

### Environmental Advantages

**Emissions Reductions:** Electric vehicles do not emit greenhouse gases or air pollutants when driving on electricity, providing cleaner air for our communities. On average, the emissions associated with driving a new electric vehicle in North Carolina and Virginia are equivalent to those produced by a gasoline vehicle that gets 102 mpg, and as energy production gets cleaner, so will the cars.<sup>2</sup>



**Quiet Driving:** Electric vehicles are much quieter than gasoline vehicles and help reduce noise pollution.

**Sustainability Initiatives:** With their lowered emissions, electric vehicles provide a great way to meet government or corporate sustainability goals and promote social responsibility and leadership.

### Operational Characteristics

**Mileage:** Electric vehicle driving ranges continue to increase, and fleets often have predictable routes when meeting daily needs, lessening concerns over range anxiety.

**Charging Convenience:** The centralized parking typically employed by motor pools and fleets offers a convenient place for charging stations.

**Data Connectivity:** Electric vehicles are a "connected" technology. They track driving distances and behavior, diagnostics and maintenance, and battery health for more informed decision-making.

**Guilt-free Idling:** No tailpipe means no worrying about emissions or cost impacts of idling.

**Satisfaction:** Electric vehicles are not only clean and quiet but they are also fun to drive. With their enhanced performance, they can improve employee satisfaction and support retention.<sup>3</sup> They can also boost awareness for others and help advance electric transportation.



## Popular Fleet Vehicles

Vehicle Type	Make	Model	Estimated Range	Vehicle Category
LSV	Polaris GEM	eM 1400 LSV	45-68 miles	Utility Vehicle
BEV	Chevrolet	Bolt EV	259 miles	Hatchback
BEV	Nissan	LEAF Plus	226 miles	Hatchback
BEV	Tesla	Model 3 Standard	240 miles	Sedan
PHEV	Ford	Fusion Energi	21 miles electric/610 miles total	Sedan
PHEV	Toyota	Prius Prime	25 miles electric/640 miles total	Hatchback
PHEV	Ford	Escape*	30 miles electric/550 miles total	SUV
PHEV	Mitsubishi	Outlander PHEV	22 miles electric/310 miles total	SUV
PHEV	Chrysler	Pacifica Hybrid	32 miles electric/520 miles total	Minivan

Notes: LSV = Low speed vehicle; BEV = Battery electric vehicle; PHEV = Plug-in hybrid electric vehicle

\*Expected Release: Spring 2020

## Case Studies

### University of Virginia<sup>4</sup>

- Coaster Cycles cargo bicycle
- 5 Nissan LEAFs
- 3 e-ride Industries work trucks
- Eliminated 3,200 gallons of gasoline in one year
- Reduced carbon emissions by 28 metric tons in one year

### University of North Carolina at Charlotte<sup>5</sup>

- 115 electric vehicles out of 500 total fleet vehicles
- Aiming for 25% electric vehicle mix
- 48 charging stations on campus

## Sources

1. U.S. Department of Energy
2. Union of Concerned Scientists
3. Midwest Evolve
4. Government Fleet
5. NC Clean Energy Technology Center

## Electric Vehicle Cheat Sheet



Go electric when replacing vehicles that are 7 years or older



Identify vehicles that are highly utilized or have costly maintenance



Target vehicles that often idle or are in noise-sensitive settings (like around classrooms)



Look for opportunities to switch to smaller vehicle categories when possible



Review state contracts for electric vehicle options and charging stations



Explore grants and funding opportunities



Plan to acquire electric vehicles over time



Share your story and engage stakeholders

**Reach out to Plug-in NC for help!**



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