

# Duke Energy Electric School Bus Overview



## What's Available?

- Blue Bird
- Thomas Built
- Lion



# Benefits

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## Great Performance

Electric buses have proven their performance in all types of terrain and weather.



## Healthier

Electric school bus motors produce zero emissions. This means cleaner, healthier air while kids wait to board the bus and inside the cabin.



## Cleaner

Switching a vehicle from diesel to electric power can reduce a vehicle's CO2 emissions by 71%.



## Cheaper to Run

Switching from a diesel bus to an electric bus can reduce the fueling costs of a vehicle by over 40%.



## Quieter

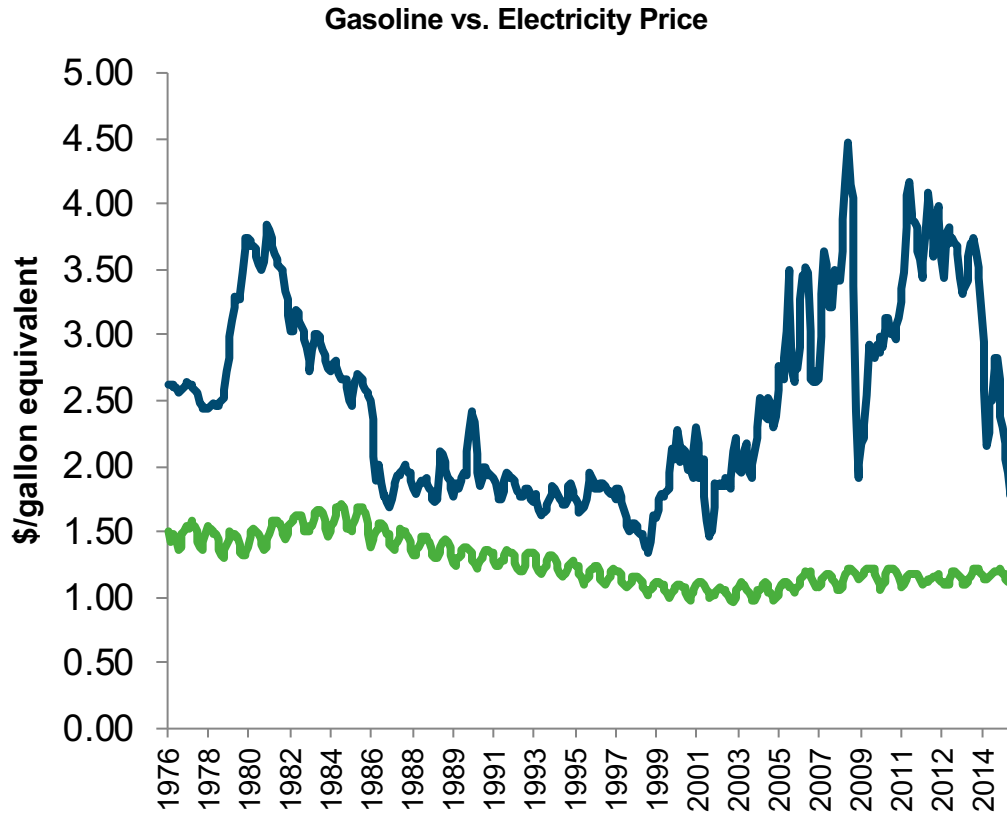
Electric school buses are much quieter, allowing drivers better communication with and oversight of students.



## Safe

Electric school buses are built and tested by the same standards as any other school bus on the road.

# Electrification = Economic Development



SOURCE: EIA, *Short-Term Energy Outlook*

## Duke Energy's Electric Rates: Below U.S. Average

In effect as of July 1, 2017 (cents per kilowatt-hour (kWh))

### Residential

Duke Energy Kentucky	8.89
Duke Energy Carolinas-NC	10.40
Duke Energy Progress-NC	11.11
Duke Energy Carolinas-SC	11.13
Duke Energy Progress-SC	11.78
Duke Energy Ohio	11.81
Duke Energy Florida	11.84
Duke Energy Indiana	12.05
<b>U.S. AVERAGE</b>	<b>13.99</b>

### Commercial

Duke Energy Progress-NC	8.01
Duke Energy Kentucky	6.14
Duke Energy Carolinas-NC	8.88
Duke Energy Ohio	8.91
Duke Energy Progress-SC	9.14
Duke Energy Carolinas-SC	9.39
Duke Energy Indiana	9.50
Duke Energy Florida	9.56
<b>U.S. AVERAGE</b>	<b>11.84</b>

# Cost Savings Potential

## Fuel Cost Savings

Diesel	Miles	Gallons	Cost	
	12,000	1,714	\$	5,486
Electric	Miles	kWh	Cost	
	12,000	16,246	\$	1,300
		Fuel Savings	\$	(4,186)

# Transportation Electrification

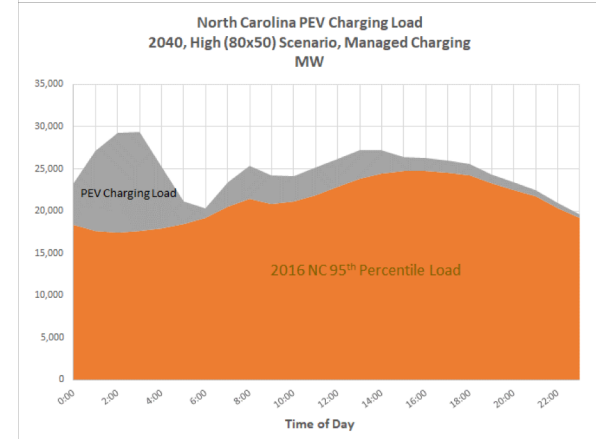
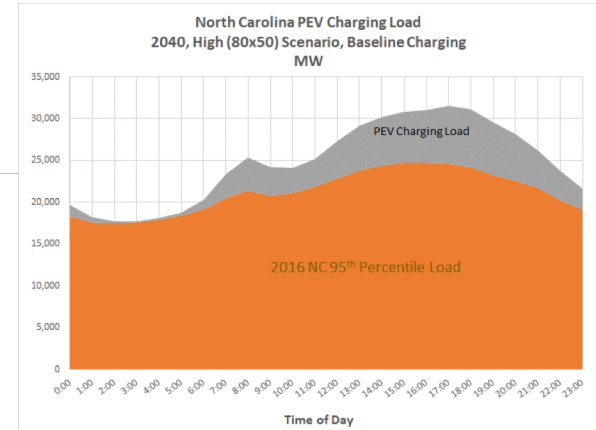
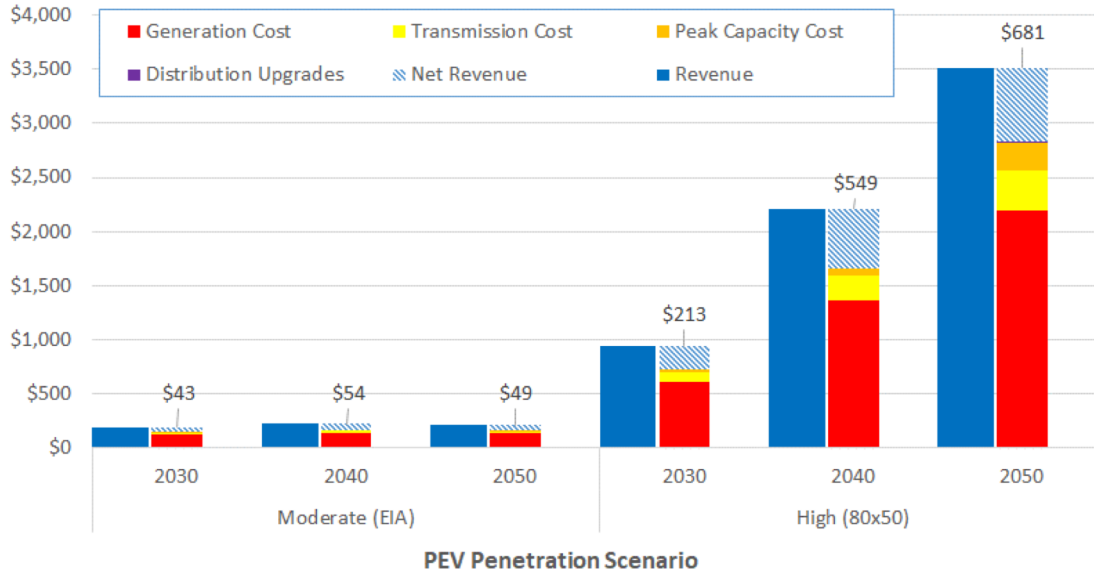
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- Communities save money.
- Energy use is reduced.
- Emissions are reduced.
- Electric system utilization is efficiently increased, driving rates down.

# System Benefits of Electric Transportation

- Increasing system utilization drives down rates.
- Benefits are increased by managing charging.

North Carolina: Utility Costs & Net Revenue from PEV Charging  
**Managed Charging**  
 (NPV \$ millions)



# Policy Updates

- **NC DEQ Energy Policy Council Recommendations**
  - State EV adoption and infrastructure goals
    - Public transit, private and fleet transportation
    - State motor fleet EV purchases
- **October 2018 Executive Order on climate goals**
- **VW Settlement – Environmental Mitigation Trust**
  - Diesel bus replacements (alternative fuels)
  - Light-duty electric vehicle charging infrastructure

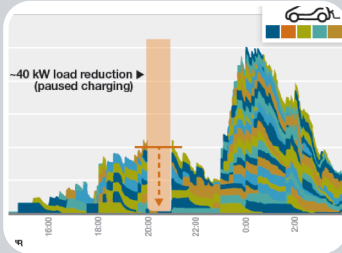


NORTH CAROLINA





## Proposed EV Pilot for SC



### Residential L2 Rebate

- \$1,000 total rebate for participation in Charging Load Management Program
- 1,500 Customers

### School Bus Rebate

- \$120,000 rebate
- 30 Bus Goal
- V2G
- 2<sup>nd</sup> Life Battery Use

### Transit Bus Rebate

- \$55,000 rebate
- 30 bus goal
- Development of charging load management program or TOU rate.

### DC Fast Chargers

- 30 Stations
- 120-160kW
- Market rate for charging service.



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