



ADVANCED ENERGY CONFERENCE

March 2018



Significant Greenhouse Gas Emissions



- There are 46,500 diesel school buses in New York
- CO₂ is the principal Greenhouse Gas (GHG) emitted from diesel engines
- Kids are particularly vulnerable to GHG
- GHG have harmful repercussions on the

environment, human health and generally on

our society

AN ALL-ELECTRIC SCHOOL BUS SOLUTION IS AVAILABLE

LION OVERVIEW

- Theelionc is the first all-electric school bus in North America
- Only zero-emission solution
- 1 million miles driven and counting
- Built with materials that have already proven themselves
- Lion^e has been designing electric buses for 7 years
- The is in its third commercialization year
- Lion sold hundreds of electric Type C school buses in North America

Lior**fisClaum**ching it electric minibus in the summer of 2018;

- the will meet customer needs in paratransit, school, and public transportation requirements
- Lion is developing class 5 to 8 all-electric trucks. Class

1 MILLION MILES DRIVEN... AND COUNTING





Benefits of an All-Electric



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ELECTRIFYING SCHOOL BUSES IS INEVITABLE

Electrifying school buses is the only environmental, social and economical solution that makes possible protecting our most precious capital, **our children**

- North America is aiming to be a green and electric society with a healthy population and healthy children children C
- The is a proven and reliable solution that is available now



Key Takeaways from current deployments:

- 1. Lion provides additional charging infrastructure knowledge, selects charging equipment based on needs and assists with infrastructure installment
- 2. Lion provides enhanced training to school districts and provides Lion EV certification to key employees
- 3. Lion provides additional route options based on needs to reduce range anxiety while maximizing the return on



Additional All-Electric Solutions



elionm & elionA

- The LIONM meets the urban paratransit transportation expectations
- Low floor and design optimized for paratransit
- The^eLIONA is a mini school bus
- Flexible configuration options
- All-electric powertrain
- Safe, high-performance lithium-ion (NMC) batteries from LG Chem
- 75 miles 150 miles range
- 1 or 2 swappable 80kWh batteries
- 19.2 kW on-board charger that uses a J1772 charger
- Available for school transportation purposes
- Will launch in the Summer of 2018











Range and Energy

ellonA



elionm



RANGE	ENERGY
75 miles	80 kWh
150 miles	160 kWh

ENERGY

80 kWh

160 kWh

RANGE

75 miles

150 miles

Charging Times:

elionA -elionM

- AC /19.2: 4-9 hours
- DC 50kW: 1.6 3.2 hours
- DC 100kW: 0.8 1.6

hours



Significant Greenhouse Gas Emissions



HEAVY VEHICLES ARE RESPONSIBLE FOR ABOUT 50% OF ALL ROAD VEHICLES GLOBAL EMISSIONS

Significant Polluters



Specific Benefits to Different Usage

GARBAGE TRUCK: Eliminating hydraulics saves maintenance but also eliminates hydraulic leaks and related fines

CRANE TRUCK : Significant reduction in consumption when vehicle is stopped

EMERGENCY VEHICLE: Electric motorization facilitates the integration of new technologies and improves the performance of the vehicle to reduce the inaction time

REFRIGERATED TRUCK: Quiet vehicle allow for all-day service outside of traditional working hours

MINING TRUCK: Eliminates the need for expensive ventilation systems inside mines

ELECTRIFYING HEAVY DUTY VEHICLES IS INEVITABLE



CLASS 8 ALL-ELECTRIC VEHICLE AVAILABLE IN THE FALL OF 2018





LION's Next Steps

Sales

- Lion sold hundreds of Type C buses in North America; more specifically in California, Massachusetts, Minnesota, Quebec, Ontario and Alberta
 - Lion is currently targeting other major markets and is extending its reach to 205 million people in 19 different states and provinces
- Cities ellonc
- 96" width all-electric school buses are now available

Built in the US for the US

• Lion will open a facility in the US by 2019





Power in Progress

