

Alternative Fuel School Buses



Propane



Compressed
Natural Gas



Electricity



Most OEMs make alternative fuel versions of your preferred bus



Benefits of Alternative Fuels in School Bus Fleets

- Fuel prices are lower and more stable than gas and diesel
- Lower operational costs
- Domestic fuel source
- Maintenance cost and issues can be less than diesel
 - No regen, no DPF, no DEF
- Improved air quality, especially around schools
- Better driver and passenger experience
 - Reduced engine noise
 - No diesel smell
- Resilience



Fueling: Propane



Propane fueling can be built on site for little to no cost, depending on the fuel volume, through partnerships with your local propane marketer.



Fueling: CNG

- Fueling can be built on site, or existing local stations may be utilized.
- State tax credits may be leveraged through public-private partnerships to reduce costs.



If you are considering CNG, call your gas utility to check existing available capacity at your site, and ask about incentives.



**Compressed
Natural Gas**

Fueling: Electricity

- Fueling should be built on site
- Each bus likely needs its own charger
- Buses charge overnight
- VW funds and tax credits may be available for charging equipment



If you are considering electric, call your local utility to check existing available capacity at your site and ask about incentives.



Electricity

Improve Alternative Fuels with Renewables



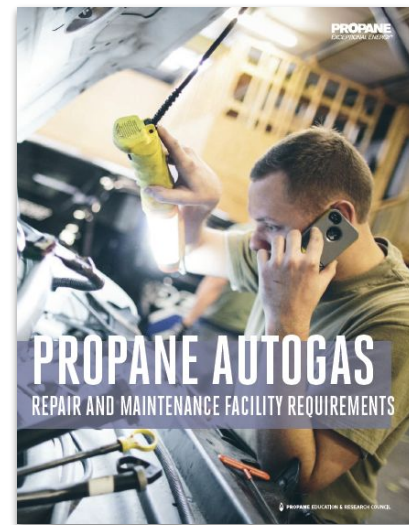
Maintenance

Maintenance requirements are different for alternative fuels. Your staff may need additional training, or you may need to rely on your local dealership for maintenance.

Your maintenance buildings MAY need modifications to allow your technicians to safely work on alternative fuel buses.



ALTERNATIVE FUELS
OKLAHOMA DEPARTMENT OF LABOR



U.S. DEPARTMENT OF
ENERGY Office of ENERGY EFFICIENCY
& RENEWABLE ENERGY

Compressed Natural Gas Vehicle Maintenance Facility Modification Handbook



September 2017

Do your research!

- Alternative fuels have strengths & weaknesses which make certain types more suitable for different use cases and duty cycles.
- Understand the pros and cons of the fuel you are considering.
- Reach out to your Clean Cities Coordinator for a fuel-neutral fleet analysis that can help you make the right choice for your fleet.



Rys. 21 Histogramy przedstawiające...
z polskich hut w ramach zakładów
żelaznych EPSTAL o średnicy
a) R_e – granica plastyczności (min),
b) R_m – wytrzymałość na rozciąganie,
c) A_{gr} – wydłużenie przy maksymalnej

PN-EN 10080:2005), który wymaga
od producenta prowadzenia wewnętrz-
nej kontroli produkcji, wykonywania
przez niego uzupełniających badań
próbek pobranych w zakładzie oraz

wstępne badania wyrobów, inspek-
cję zakładu, ciągły nadzór oraz – co
wyróżnia system I+ od pozostałych
– badania sondażowe próbek pobra-
nych w zakładzie, w obecności lub na

-odkształcenio
się do dług
jakości, co
wykazuje
zobowiązanie
by wykonać

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Alternative Fuels Data Center

Search the AFDC

SEARCH

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Alternative Fuel and Advanced Vehicle Search

Find and compare alternative fuel vehicles (AFVs), engines, and hybrid/conversion systems. Some of the light-duty AFVs in this tool may count toward vehicle-acquisition requirements for [federal fleets](#) and [state and alternative fuel provider fleets](#) regulated by the Energy Policy Act (EPA). Access a list of light-duty [Model Year 2018 Alternative Fuel and Advanced Technology Vehicles](#) or download a [spreadsheet of all vehicles](#).

Search Results - 1 - 8 of 22 vehicles

[New Search](#) | [Download](#) | [Print](#)

Filter by: [Fuel/Technology: All](#) | [Class/Type: School Bus](#) | [Manufacturer: All](#)

View

Blue Bird All American Rear Engine

CNG - Compressed Natural Gas

Maximum Seating: 84

Power Source(s):

Cummins Westport L9N 6.9L Near Zero

Blue Bird All American RE Electric

Electric

Maximum Seating: 84

Power Source(s):

ADOMANI/Efficient Drivetrains, Inc. 315HP 150kWh

Blue Bird Micro Bird 5G Electric

Electric

Maximum Seating: 30

Power Source(s):

ADOMANI/Efficient Drivetrains, Inc. electric

Blue Bird Micro Bird G5

Propane

Maximum Seating: 30

Power Source(s):

Ford 6.0L V10

Refine Your Search

Fuel/Technology

+

Class/Type

-

☐ All Classes/Types
 ☐ Sedan/Wagon
 ☐ Truck
 ☐ SUV
 ☐ Van
 ☐ Step Van
 ☐ Vocational/Cab Chassis
 ☐ Street Sweeper
 ☐ Refuse
 ☐ Tractor
 ☐ Shuttle Bus
 ☐ Transit Bus
 ☒ School Bus

Manufacturer - Light-Duty

+

Manufacturer - Med & Heavy-Duty

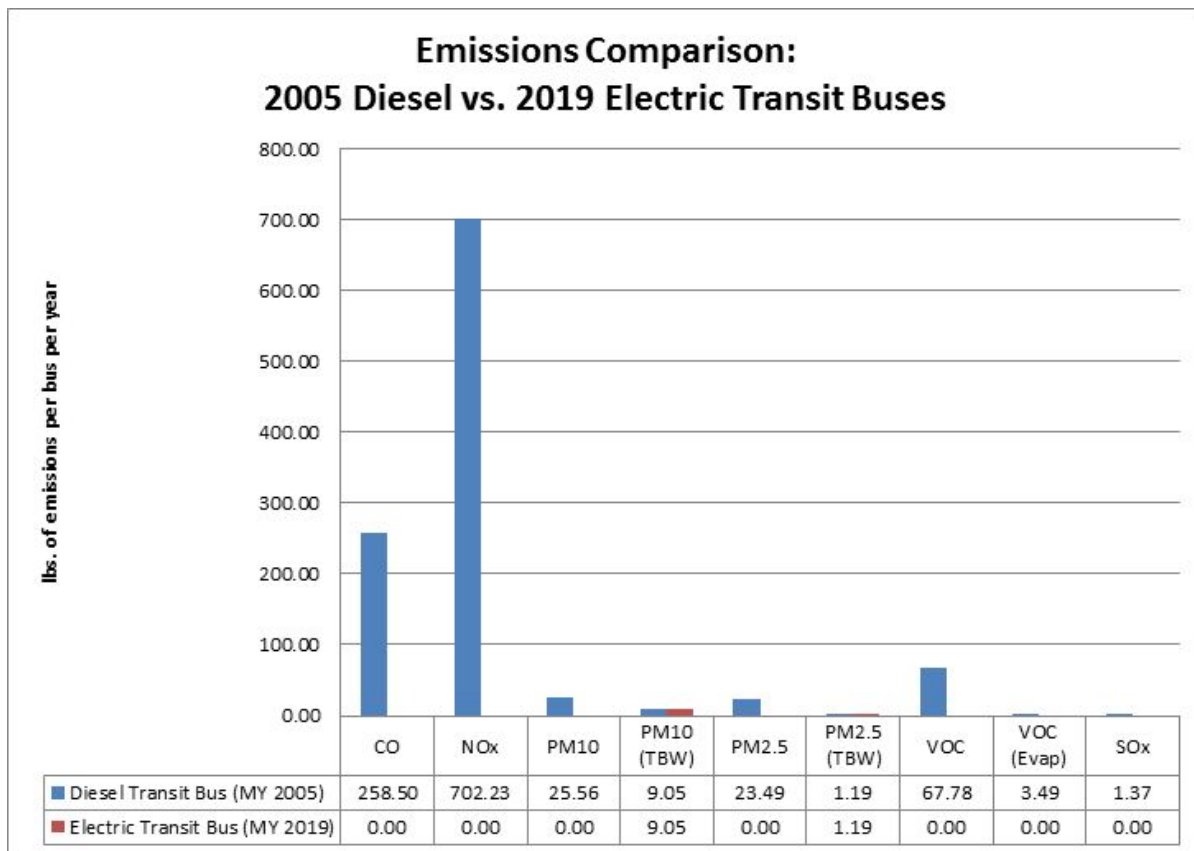
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Idle Reduction Plans

- Wastes up to 0.5 gallons of fuel per hour
- Idling a medium-duty truck wastes 0.4 to 0.6 gallons of fuel per hour
- Uses more than 6 billion gallons of fuel at a cost of more than \$20 billion EACH YEAR in the U.S.
- Increases vehicle maintenance costs
- Can shorten vehicle life



Emissions Reduction Analysis



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Innovative Partnerships and Financing

- Your local propane marketer may be able to provide fueling equipment at no cost
- Lease-purchase arrangements may allow you to leverage state tax credits and grant funding on buses
- Public-Private partnerships may allow you to leverage state tax credits for CNG stations which are excluded from VW funding
- Battery lease options are offered by some bus manufacturers to lower the purchase price of electric buses and provide battery replacements as needed
- Talk with your utility about partnering on CNG or EV charging installations
- Confirm with DEQ that these arrangements are compatible with VW Funds prior to submitting a proposal