Electric Buses—
Why Now is the Perfect Time!

And Being the 1st district in Texas to do it!

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Item	Quantity	How often	Unit Price	$/Year
Diesel Fuel	60 gal	1/week x 36 weeks	$2.25/gal	$4860
Oil	20 quarts	2/year	$7/qt	$280
Oil Filter	2	2/year	$80/filter	$320
Trans Fluid	12 quarts	once every 3 years	$9/qt	$36
Trans Filter	1	once every 3 years	$140/filter	$46.67
Air Filter	1	1/year	$120/filter	$120
Fuel Filter	1	once every 2 years	$50/filter	$25
DEF FLUID	15 gal	once every 2 months	$15/gal	$1125
*DPF/DOC cleaning	1 cleaning	once every 2 years	$300	$150
			Total/year$/bus	$6962.67
			X 4 buses	**$27,851** Yearly Minimum maintenance for 4 buses

2018-2019 expenditures of major repairs:

*DPF/DOC Cleaning & Replacement		$21,410
*Turbo replacement	= $850 x 2/bus x 6 buses =	$10,200
*Transmission Replacement (Our Mechanic)	= $6500 x 2 buses =	$13,000
*Engine Replacement	= $28,000 x 5 buses =	$140,000

Costs & Repairs attributed to lack of Preventative Maintenance **$184,610**

+ $27,851

$212,461

WHAT IF THE COST WAS "$0"?

WHAT IF WE COULD SAVE $30,000 per BUS?

WHAT IF THERE WAS A 90% COST SAVINGS IN FUEL ALONE?

https://www.youtube.com/watch?time_continue=19&v=Tj1yPvK9yaQ

Background information:

*Volkswagen has agreed to pay $2.9 Billion into the Environmental Mitigation Trust Agreement for State Beneficiaries.

+ $2 Billion to fund a nationwide Zero Emission Vehicle Investment Plan, since EPA found Volkswagen at fault in emissions reports for 2 diesel engines.

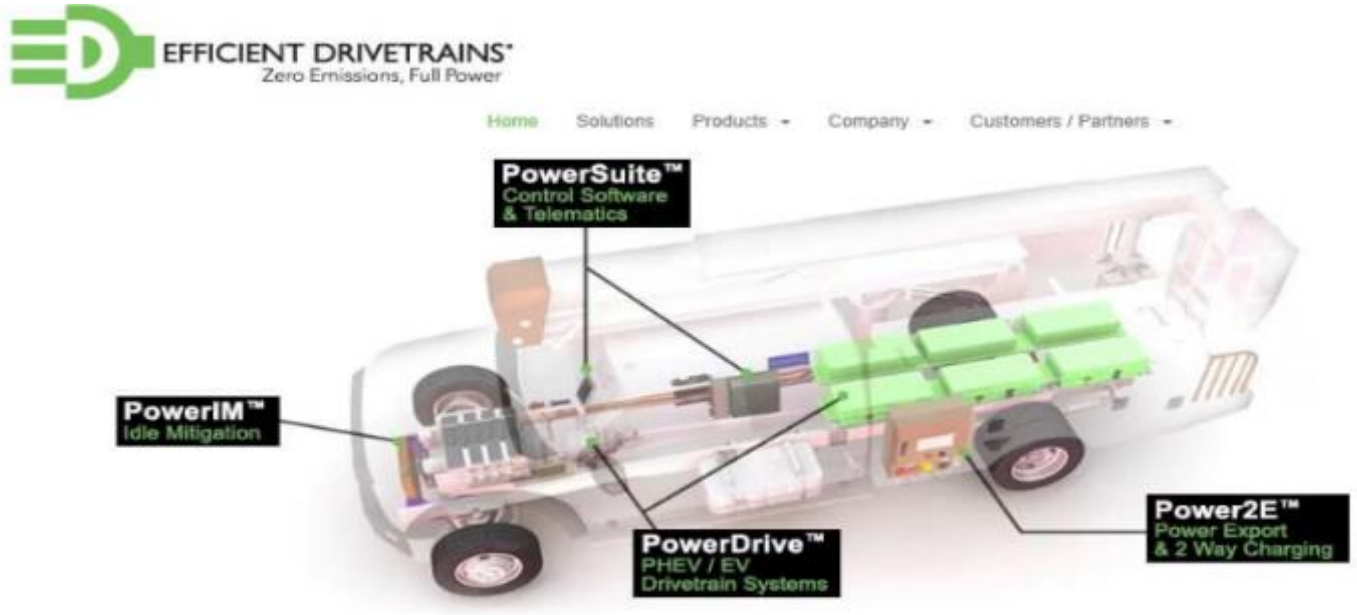
***$209,319,163** is available to Texas for projects that reduce NOx. Funds will be awarded by TCEQ.

***$33,385,160** total to be used in Dallas-Fort Worth area for eligible diesel vehicle and equipment replacements.

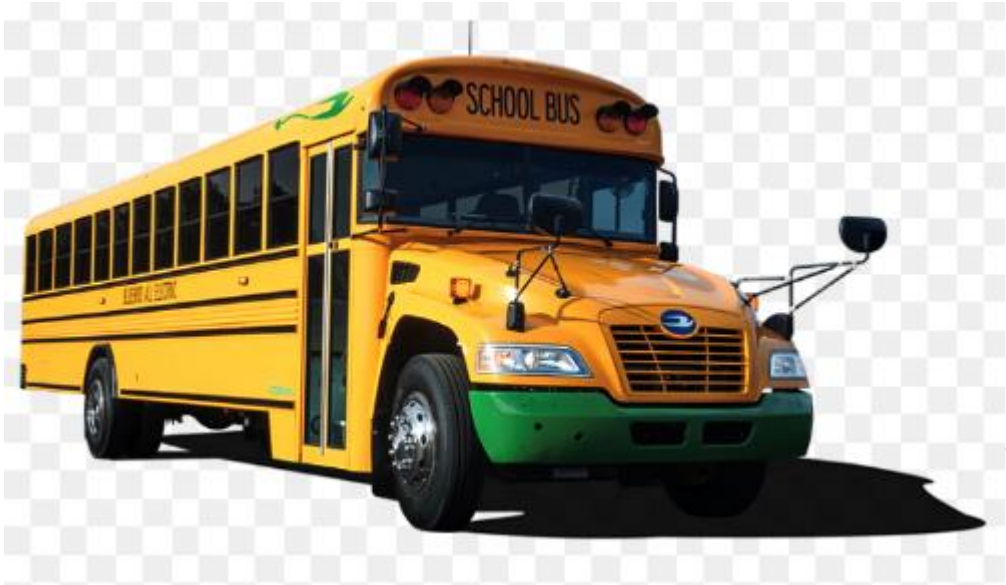
*On 5/8/19, **$11,684,806** made available for Dallas-Fort Worth area bus projects (transit/shuttle/school bus replacements and repowers).

*School Bus Replacement result in 80% coverage of the cost of the bus. (up to **$320,000/bus**)
*Funding also covers infrastructure. **(80%, up to $140,000)**

*"1st come, 1st served basis", but have limits.
"Share the Funds"--Districts can get allocation more than once, after giving equal opportunities for other districts to do the same!



TCEQ has stated that no other school district is seeking purchases of electric buses, and would like EVERMAN ISD to be Texas's case study and pilot program.



*Grant application is required to secure consideration from TCEQ.

*School board vote is required after submitting and funds secured.

*School board can vote against, which returns the funds with no negative marks toward the district.

Allocation does require record showing that replaced buses are destroyed.

2018-19 School New Buses Cost EISD:

$89,500
$92,725
$88,500
+ $88,500

$359,225

+ $13,925 for ½ year for maintenance & fuel

$373,150 spent on 4 buses for ½ year.

Current Experiences in other Districts:

1. **Sergio Alfonso**—Transportation Supervisor:
   White Plains School District, New York
   *5 Buses (E-Lion Buses)

   *Very good results. Fuel savings alone over $20,000/year
   *Minor issue with diesel-powered heaters needed for extreme cold, but warranty fix, and no problems since then.
   Texas bus would not be equipped with same heater.

   *Must have Level 2 charging Station installed @ $6,000-$7000 each.
   Should be considerably less in Texas with Utility company competition.

   *100-120 miles/charge, but no bus goes over 50 miles/day

2. **Stephen Russel**—Program Coordinator
Department of Energy Resources, Massachusetts
3 Buses in 3 School Districts (Cambridge, Concord, Amerist)

*5 Buses (E-Lion Buses)—started in 2015
(Original Piloted School bus from 2012 is still in service, and lost about 10% of driving range in 7 years.)

*Excellent results! Fuel savings and maintenance cost drop larger than expected!

*All E-Lion Buses—8 year warranty, including free training to mechanics.

*Same Minor issue with diesel-powered heaters as White Plains.

*70-100 miles/charge, Battery life expected to last 15+ years

https://www.youtube.com/watch?v=mnvEhN47xJ0#action=share

3. **Tim Shannon**—Director of Transportation:
Twin Rivers Unified School District, California
*16 Large Buses (Lion Buses)
*8 Small Buses (Type A)
*Just purchased 8 more Lion Buses and 8 Bluebird Buses—
Waiting for delivery. Buses purchased with Air Conditioning.

*Far Exceeding Expectations.
*Fuel savings alone over $25,000/year

*Electricity use is about $130/month/bus @ 10cents/kw-hr.
EISD pays 4cents/kw-hr = $50-$60/month to power bus.

*90-100 miles/charge, but no bus goes over 70miles/day.

Only REGRET—NOT GETTING THEM SOONER!!!!

Shop Foreman—Ray Melagasi—No work has been required on electric motor.
Normal maintenance for tires/brakes/etc. Less time spent fixing the bus.
Very good warranty and free training

What does the GRANT COVER?

--80% of cost of the Bus (up to $320,000/bus)

--80% of infrastructure (up to $140,000)

THIS GRANT IS THE ONLY OPPORTUNITY OF ITS KIND

*Current EPA “Clean Diesel Program” caps at only 45% for replacement & infrastructure.

*TERP “Texas Clean Fleet” Programs caps at 80% for buses, but no infrastructure.

*TERP “Alternative Fuel Facilities” Program caps at 50% for infrastructure, but no buses.

*5/8/19—1st Grant Application Day $11,684,806 to DFW Area

*6/6/19--DFW area districts requested funds--$4,602,882
$7,081,924 left.

*6/11/19, requested funds--$6,010,600,
$5,674,206 left.

*6/17/19, requested funds--$8,927,311,
$2,757,495 left.

EISD is requesting:
$1,216,964 for 4 EV bus Replacements + Charging Stations
$100,324 for 4 Engine Repowers

$1,317,288

https://www.tceq.texas.gov/assets/public/implementation/air/terp/VW/TxVEMP_Buses_Status.pdf

What's the CATCH?

1. Bluebird D-Style EV-Bus, drivers will need to be trained.
POSITIVE!—Through DFW Clean Cities Coalition at NCTCOG, "Tiger Team"-- network of national labs and other resources to get resources and contacts if any issues arise.

2. Electric AC/Heat will drain battery charge, resulting in estimated 70-80 mile range.
   Buses could not be used on long field trips during hot/cold months.
   90% of route buses go less than 50 miles/day.
POSITIVE!—Battery Technology and Efficiency is only increasing!

3. Infrastructure, including charging station has to be in place before delivery of buses.
POSITIVE!—Oncor has already received request for "Load Requirements" at no cost to district. And 2 Electric Service companies are competing to contract the charging stations.

4. Grant Paperwork has to be completed and signed.
POSITIVE!—Paperwork has been completed……Just needs a signature!

What's the COST?

--Bluebird 1st quote received 6/3/19—revised quote-- 6/12/19----$376,302/bus

--Grant would reimburse 80% ($301,041), once older buses are destroyed. Buses can be destroyed during the week of delivery of the buses. Once proof of destruction of buses is sent to TCEQ, funds would go to district directly.

=$75,260/bus overall cost to EISD
X 4 BUSES

District would also receive a check from the auto-recycler for recycling of buses
-About $3000-$5000 for 4 buses.

+ Infrastructure ($14,000-$16,000)

EISD Total out of pocket-**-$299,442 vs $373,150 (4 new buses)**

What Else?

1. Driving Range--50 miles (5 years ago) 120 miles (Today) 200 miles (+5 years)

2. Bi-directional current technology- “Emergency back-up power” and “back on the grid.”

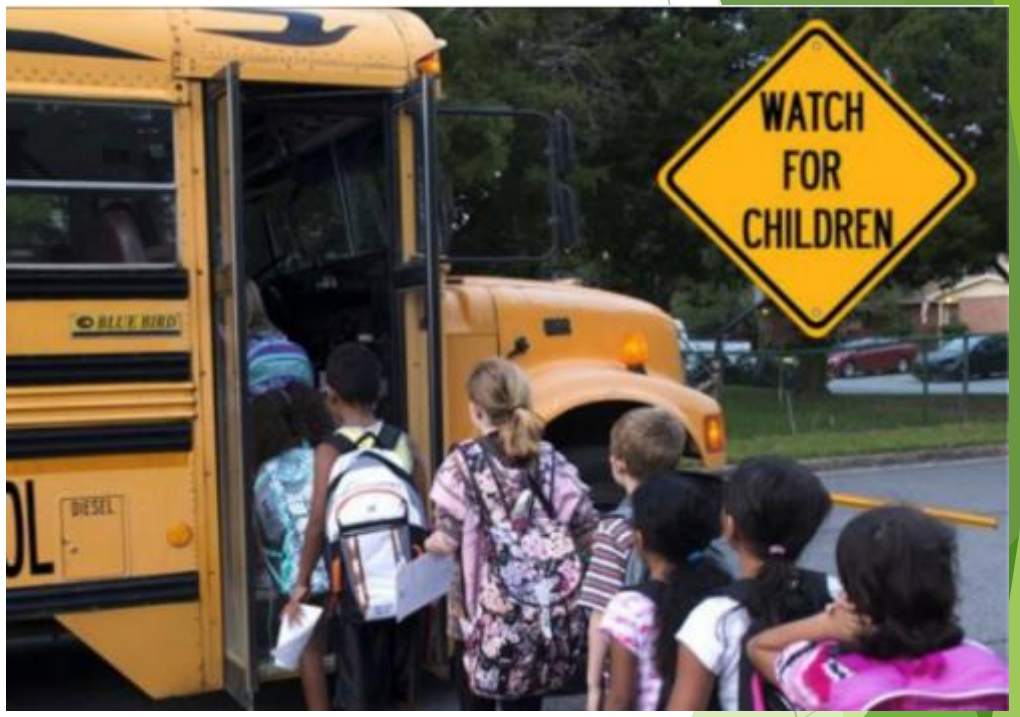
3. Night-charging during late-night/early morning hours, reducing grid-load.

4. Bluebird has the only available bus. International & Thomas still in testing.
   Trans-Tech & Lion Buses not currently available in Texas (3rd Party)
   Vendor competition!

5. Dallas, Denton, and Arlington put in grant requests last week, but TCEQ has not fully accepted the grants yet.

Should EVERMAN ISD be the 1st School District in Texas to move toward 100% Fossil-Fuel-Free?

1. CLEAN
2. SAFE
3. QUIET
4. HEALTHY
5. ECONOMICAL
6. TEACHING KIDS CONSERVATION
7. LIGHT-HOUSE DISTRICT TO TEXAS



Tell us why we shouldn’t?