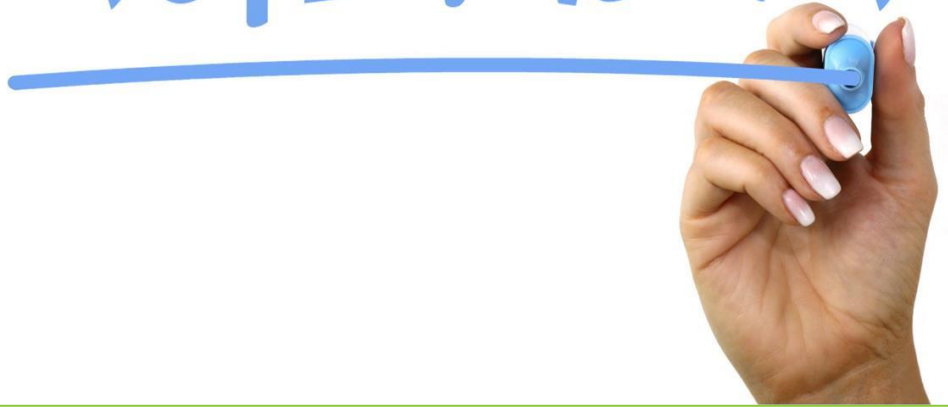




Zero Emission Vehicle Strategic Plan - Update



AGENDA



NYS Battery Electric Bus Goals

Wendel Scope of Work

NYSERDA Program

Cost and Schedule

Status Update

All Electric School Buses by 2035?

Wendel has been providing clients with the switch to alternative fuels for over 30 years.

Key takeaways:

- By **2027** all new school bus purchases need to be zero- emissions and all new school buses on the road will be zero-emissions by 2035.
- The Senate is requiring the state to identify barriers to the 100% by **2035** goal so that they may be resolved early.
- New York State Energy Research and Development Authority (NYSERDA) is being tasked to provide technical assistance to school districts as they navigate the transition to 100% electric buses.



All Electric School Buses by 2035?

Planning for this is going to create some question and concerns like:

What are the implications of Battery Electric Buses on my district's infrastructure?



What are the impacts on our bus routes?



How is the District going to pay for all this?





What you need to think about:

- Vehicle Information
- Available EV Vehicle Configuration & Timing
- Available EV Charging Infrastructure
- EV Implementation Cost Factors
- Site Constraints – Space for Equipment
- Local Utility Capacity
- Site Electrical Distribution
- Future Technology Expectations/Impacts
- EV Implementation Schedule Factors
- Staff Training



Proposed Scope of Work

Project Goals –

Utilizing NYSERDA's Clean and Green Energy Solutions Program to perform a study evaluating the transition to zero emission vehicles for the school bus fleet.

- Data Collection
- Bus Route Analysis
- Conceptual Charging Strategies
- Electric Utility Analysis
- Concept Development and Phasing Plan
- Transition Plan Cost Estimates



NYSERDA

6,000 Schools in NYS

\$1B in Annual Energy Costs

5.6M Metric Tons Carbon Dioxide

P-12 Schools – Green & Clean Energy Solutions Program (PON 4157)

Being used to fund Battery Electric Bus Study

Expired on December 30, 2022



P-12 Schools - Flexible Technical Assistance Program (PON 4192)

Goal

Reduce School Energy Loads and Assist Conversion to Carbon Free Fuels

75% Study Cost-Share Grant

- Non-Competitive – First Come First Serve
- Pre-Qualified Term Contractor

Energy Audits & Master Planning

- Building Energy Systems (HVAC & Lighting Systems)
- Renewable Energy Technologies
- Retro-Commissioning
- Indoor Air Quality
- Carbon Reduction Planning

Project Cost & Schedule

- Total Project Cost = **\$81,520**
- Sweet Home School District Share = 25% or **\$20,380**
- NYSERDA Grant = 75% or **\$61,140**

Sweet Home school district will pay Wendel directly.

Sweet Home/Wendel contract executed 10/3/2022

As a NYSERDA approved contractor, NYSERDA will pay Wendel directly.

NYSERDA PO received 1/9/2023

Project Kick-Off Meeting Held at Sweet Home School District on 1/23/2023. Representatives from Sweet Home School District, NYSERDA and Wendel were in attendance.



Proposed Project Schedule

MILESTONE	WEEKS FROM NOTICE TO PROCEED	STATUS
Task 1: Project Kickoff and Status Meetings	2 Weeks	Complete/In Process
Task 2: Data Collection	4 Weeks	In Process 90% complete
Task 3: Route Analysis	6 Weeks	In Process 50% complete
Task 3a: Optional Route Analysis	7 Weeks	
Task 4: Conceptual Charging Strategy	10 Weeks	
Task 5: Electric Utility Analysis	10 Weeks	
Task 5a: Optional Analysis Vehicle to Grid	12 Weeks	
Task 6: Concept Development and Phasing Plan	17 Weeks	
Task 7: Transition Plan Cost Estimates	19 Weeks	
Task 7a: Optional Analysis – O&M Costs	20 Weeks	
Task 8: Final Report	22 Weeks	



QUESTIONS?

DISCUSSIONS

Thank
you



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Wendel has a strong practice in the **transportation sector** and provides planning, design and execution services for **Battery Electric Vehicles, charging infrastructure and operation facilities.**

Wendel also has a strong **alternative fuels** group that provides consulting services for propane, compressed natural gas, battery electric vehicles and hydrogen fueled vehicles.

Services Wendel Offers:



ARCHITECTURE
INTERIOR DESIGN
LANDSCAPE
ARCHITECTURE



ENGINEERING
CIVIL
ELECTRICAL
ENVIRONMENTAL
MECHANICAL
MUNICIPAL
STRUCTURAL
TRANSPORTATION
RAILROAD
ALTERNATIVE FUEL
SOLUTIONS/CNG
WATER/
WASTEWATER
RETROFITS
LAND SURVEYING
GEOGRAPHIC
INFORMATION
SYSTEMS (GIS)
PLANNING



ENERGY EFFICIENCY
ENERGY AUDITS
COMMISSIONING
PROFESSIONALLY
ASSISTED
PERFORMANCE
CONTRACTING
ALTERNATIVE
FUNDING/GRANT
PROGRAMS
RETROFIT AND
IMPLEMENTATION
DESIGN
GREEN BUILDING
DESIGN
MEASUREMENT
& SAVINGS
VERIFICATION (M&V)
RENEWABLE
TECHNOLOGIES



CONSTRUCTION
MANAGEMENT
MASTERBUILDER
PROGRESSIVE
DESIGN/BUILD
DESIGN/BID/BUILD
CONSTRUCTION
MANAGEMENT AT
RISK (CMAR)
CM AGENT
GMP DESIGN/BUILD



**250+
Employees**

**15 Offices
Nationwide**