

New Jersey Sierra Club

Resolution on Electric School Buses

WHEREAS, Modern, battery powered school buses do not emit harmful tailpipe emissions, thereby improving local air quality, and protecting our children's health by reducing their exposure to harmful air pollutants while boarding and riding in school buses, and

WHEREAS, over the life cycle of a school bus, these buses cost less to own and operate than diesel or CNG school buses, thereby saving New Jersey taxpayers money, and

WHEREAS, electric school buses will contribute to the reduction of greenhouse gas emissions, especially if there is sufficient renewable energy to charge them,

THEREFORE, the New Jersey Chapter of the Sierra Club strongly supports Senate Bill S2436 and Assembly Bill A3830 calling for a trial electric school bus program to be funded by monies from the Board of Public Utilities Societal Benefits Change, the VW Mitigation Trust Fund, and/or other available funds.

Approved by the NJ Chapter Executive Committee
August 11, 2018

Supporting Background on the NJ Sierra Club's Resolution to Support Electric School Bus Demonstration Projects

The VW Mitigation Trust, a \$2.9 billion fund, is allocating \$72.2 million to NJ to reduce nitrogen oxide emissions in NJ. While NJ has not yet made any specific commitment on how these funds will be allocated, other states have already used other funding sources to purchase electric school buses. NJ Sierra Club believes that electric school buses offer a major opportunity to improve the health of children, especially asthma sufferers, as well as reduce air pollution, taxpayer funded school transportation costs, and greenhouse gas emissions.

Pilot projects are needed to determine the best way to optimize the utilization of these buses in New Jersey. Electric school buses are in the early stages of development, and actual performance varies greatly depending on the environment in which they are being used; therefore, more real world experience and development is needed prior to the wide spread adoption of these vehicles. Project goals for the pilots include:

- measuring the performance of these buses under summer and winter weather conditions,
- determining their driving range per full charge under actual driving conditions, and
- learning how to best integrate these vehicles into a school district's daily operations, including installation of electric charging stations and developing training programs for bus operators and maintenance staff on the new equipment.

Concurrently, there are two pending electric school bus bills in the state legislature: A3830, which directs the BPU to fund electric school bus pilot projects, and S723, which increases the permitted width of school buses from 96 to 102 inches, thus providing more competition and choices in the bidding process. New Jersey Sierra Club urges the Legislature to pass and enact these two bills.

Specific Issues

Health Benefits

- The existing fleet of diesel school buses in NJ includes many vehicles that do not meet current clean air standards for diesel exhaust, which were last set in 2007.
- Children are especially susceptible to the adverse health effects of diesel exhaust pollutants and there is no safe level of exposure for school age children.
- Levels of these air pollutants are higher inside school buses than in the ambient air nearby.
- When school buses are idling the levels of air pollutants inside the bus are higher than when it is in motion; in addition, children waiting to board idling buses are exposed to high levels of pollution and even higher levels if several buses are in the same immediate area.

Environmental Benefits

- Electric vehicles have zero tailpipe emissions of Nitrogen Oxides, Particulate Matter, Carbon Monoxide, Carbon Dioxide, and Hydrocarbons.
- Electric vehicles are environmentally cleaner and safer than other alternative options such as CNG or electric/diesel hybrids.
- Replacing America's diesel school bus fleets with electric will have a significantly higher impact on overall air quality and global warming than replacing diesel transit buses; one study estimated that school buses emit 5.3 million tons of greenhouse gases each year, compared to 2 million tons for transit buses.
- Fuel efficiency for a 40-50 student capacity fully electric school bus is 17 mpg equivalent, compared to 7 mpg for a diesel powered bus and 9 mpg for a hybrid electric.
- Elimination of diesel fuel reduces the probability of pollution from oil spills and leaking fuel tanks.
- The use of renewable energy sources (i.e. solar or wind) to power electric vehicles will further reduce pollution from utility owned power plants which burn fossil fuel.

Cost Benefits

- Lifetime cost of ownership for an electric school bus is estimated to be cheaper than current diesel powered buses due to the significantly lower cost of fuel and maintenance costs, thereby offsetting the higher initial purchase price.
- Electric vehicles do not need oil changes or emissions testing, there are fewer parts to break down, and there is less wear and tear on the braking system,
- The pilot project supported by the Sierra Club will help document these savings based on real world experience.
- Subsidies will be needed to help communities offset the significantly higher upfront purchase costs of electric school buses until such time that economies of scale associated with mass production will reduce manufacturing costs.
- Operation cost savings may allow communities to reallocate school funds to higher priority areas.
- The cost of electric power is more stable than diesel or gas fuel, making it easier for school boards to budget expenses over time.
- Electric school buses powered by renewable energy sources may be able to generate revenue by selling excess electricity back to the grid.

Funding Sources

- VW Mitigation Trust and BPU funds may be allocated toward bus purchases.
- Private sector funding options may be available from utility companies and manufacturers.
- 15% of the VW Mitigation Trust Fund monies must be allocated to the installation of electric vehicle infrastructure such as charging stations; thus these funds may

be used instead of taxpayer dollars to install charging stations in school bus depots.

Timely Replacements of Obsolete School Buses

- Many school buses predate the EPA's 2007 diesel emission standards and are at the end of their economic life cycle.
- Taxpayers in districts participating in the pilot project will avoid considerable replacement costs as well as receiving a much superior school bus.