



100% emissions-free future

**Frequently Asked Questions and Answers About
Croton100's Electric School Bus Campaign**

Q1. What is Croton100?

A1. Croton100 is an all-volunteer community-based organization that seeks to reduce Greenhouse Gas (GHG) emissions in Croton-on-Hudson, NY (zip code 10520) to net zero by 2040, or 5% reduction per year, through a combination of advocacy, education and campaigns. Visit our [website](#) to learn more about us. Pursuant to its mission, Croton100 has a campaign to encourage the use of electric vehicles rather than fossil fuel vehicles.

Q2. Does the Croton School District have specific funds to buy new vehicles?

A2. Yes. The School District's June 9, 2020 ballot included "Proposition 3" which was approved by voters. This authorizes the School District to borrow up to \$225,000 to buy various buses and vehicles in the 2020-2021 budget year. The School will also receive an additional 35% of the bond amount in State Aid (\$78,750).

Q3. What is Croton100's position on the Croton School District's Transportation Fleet?

A3. Croton100 is leading a campaign to urge the Croton School District to halt the purchase of any more fossil fuel buses and to rapidly electrify its entire transportation fleet. Croton100 is currently focused on the School's plan to purchase another gas bus to upgrade its 44-vehicle fleet that currently runs on 100% fossil fuel and emits approximately 500 tons of CO₂ from its 400,000 annual miles of transportation does not adequately weigh the harm to our atmosphere as a factor in this decision.

Croton100 opposes the purchase of a gasoline bus because it will add about 200 tons of carbon dioxide to the atmosphere over a 12-year life of the bus. CO₂ is a greenhouse gas that stays in the atmosphere for decades and causes global warming. This is very problematic because the [world's leading scientists](#) have explained that we must reduce net carbon emissions by 50% by 2030 and 100% by 2040 if we are to avoid catastrophic impacts of climate change. The scientific community has further explained that swift CO₂ reduction is critically important. Reducing carbon emissions at a rate of 5% per year requires rapid, far-reaching and unprecedented changes. Purchasing a new gas bus is in conflict with the scientific information about actions we must take now to reduce the accumulation of GHGs.

Continuing to purchase fossil fuel vehicles is also in conflict with the goals to cut carbon emissions on schedule with New York State's recently enacted [Community Leadership and Climate Protection Act of 2019](#).

Additionally, Croton100 opposes buying new fossil fuel buses because they will add harmful particulate pollution to the air that the children using the buses and others in the vicinity of the buses will breathe. This is especially problematic because Westchester County’s air quality falls below federal clean air standards (specifically, Westchester is a non-attainment zone for [National Ambient Air Quality Standards](#)).

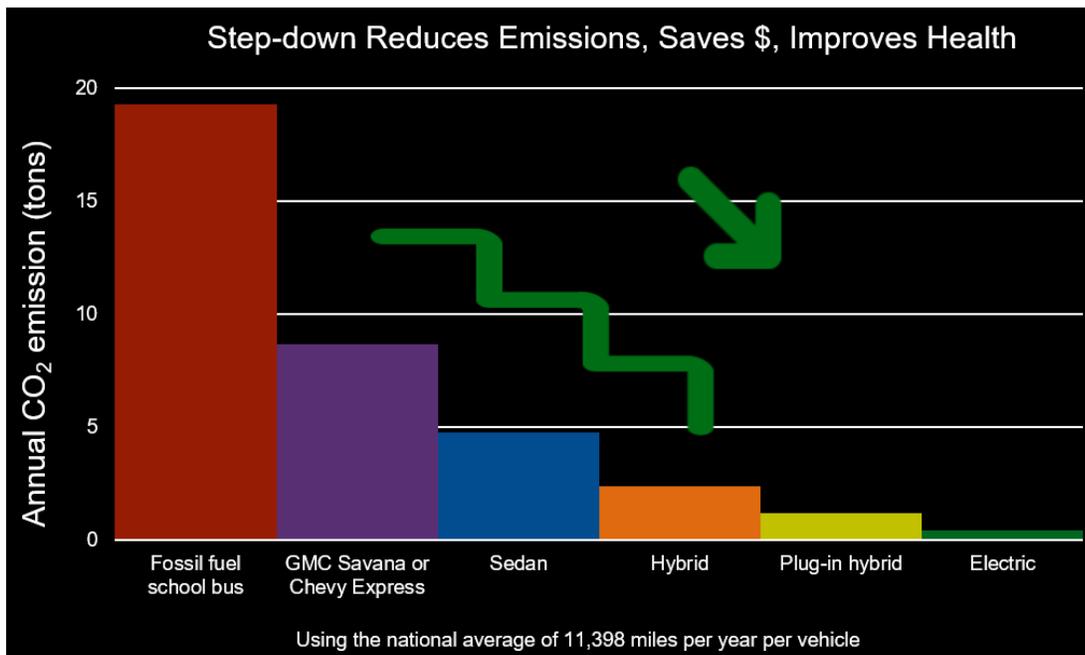
For over a century, critical decisions such as school bus purchases have not considered environmental harm as a first-order metric and this has to change. The school does not publish its carbon budget, does not give carbon a seat at the table for important decisions such as this one and has not published a plan and roadmap to decarbonize.

Q4. What is the alternative to a gas bus?

A4. The School District can buy an electric bus rather than a gas bus.

Q5. How do the carbon emissions of a gas bus compare to emissions of other fossil fuel and electric vehicles?

A5. The figure below shows the relative CO₂ emissions of various vehicles in metric tons per year, assuming “clean” electricity to charge the bus and electric cabin heating with *de minimus* diesel/propane backup.



Q6. Do electric buses have cabin comfort features like their gas counterparts?

A6. Yes. Electric buses have comfort features, like cabin heating, air conditioning and appropriate seating, just like their gas counterparts. Electric buses incorporate the most advanced systems. Like other vehicles, electric buses come with warranties that provide assurances that the features of the bus will perform as specified in the purchase contract.

Croton100 has obtained a proposal for the sale of an electric school bus from the premier electric school bus company, Lion Electric. The proposed bus comes with air conditioning and with two heating systems: an electric heater as well as an auxiliary propane or diesel (“Spheros”) heater. Electric heating reduces the range (i.e., distance that the bus can drive on a single charge) by about 25%. If the range required between charges can accommodate this, then heating can be fully electric. In addition, electric heat on a timer can be used to pre-heat the cabin while it is being charged overnight so that the bus gets a warm start. The auxiliary heating source is available as a backup on the coldest days, or when we need maximum range. While auxiliary heat is a source of CO₂ and other emissions (of course, only on cold days when heating is needed), the emissions are small compared to a bus that uses gas or diesel for everything, including locomotion – even assuming 120 days of heating required during the school year, emissions savings exceed 80% compared to a diesel bus.

Q7. How far is the range of an electric bus and how long does it take to charge?

A7. An electric bus has a range of 100-150 miles, depending on the make and model. It takes about 4 hours to fully charge a bus battery with a level 2 charger.

Q8. Do electric vehicles have mechanical design features that make them safer than their gas counterparts?

A8. Yes. In addition to being safer because they do not emit particulate pollution and greenhouse gases that cause global warming, electric vehicles are generally safer than their internal combustion counterparts. One reason is because heavy batteries are beneath the vehicle, so the center of gravity is lower. Another is modern electronics and safety systems. All electric buses have regenerative braking. As soon as the driver takes his or her foot off the “go pedal” (electric buses don’t have “gas pedals”!), regenerative braking kicks in. Other than harnessing energy from the braking process to improve efficiency, regenerative braking contributes to stability and safety, particularly in a slippery downhill drive.

Q9. Is an electric bus more expensive than a gas bus?

A9. No, over the life of a bus, an electric bus is not more expensive than a gas bus. An electric bus has a higher purchase price than a gas bus even after subsidies, but an electric bus is less expensive to maintain and run. An electric bus does not require oil changes and has fewer moving parts, which reduces wear and tear that occurs in a gas bus. An electric bus also has a longer life because it has fewer mechanical parts that wear down which can be expensive to repair. Additionally, because an electric motor is 3 to 5 times more efficient than a fossil fuel (internal combustion) engine, an electric bus uses less energy. And, because electricity is less expensive than gas, an electric bus is much less expensive to run.

The additional upfront cost of an electric bus over a gas bus is about 0.2% of the School’s overall \$49,424,525 budget for 2020-2021. Given the health and greenhouse gas reduction benefits of an electric bus and the long-term financial payback, Croton100 believes that the purchase of an electric bus is both feasible and the right thing to do now.

Q10. How could the School pay for the higher purchase price of an electric bus?

A10. There are subsidies available from a variety of sources to help offset the higher purchase price of an electric bus. These sources include funds that specifically apply for the replacement of carbon emitting vehicles with electric vehicles through the New York State Energy Research and Development Authority (NYSERDA). NYSERDA administers Congestion Mitigation and Air Quality vouchers, which are available for electric school buses in Westchester County because our air quality falls below federal clean air standards. Con Edison also has funding support for electric charging station infrastructure.

There is also a high likelihood that funds in the Volkswagen Settlement Fund will be available to the School to more fully cover the incremental purchase price of an electric bus over a gas bus at the end of this summer or perhaps early fall of 2020.

Pursuant to the voter approval of Proposition 3 on the June 9, 2020 School District Ballot, the School is authorized to borrow up to \$225,000 for various buses and vehicles. New York State contributes 35% of a successfully passed bond amount in aid to the District. Rather than directing this transportation bond money to the general school fund (as the School currently plans to do), it could be allocated toward the costs of the vehicles covered by the bond note. This means the School District will receive an additional \$78,750 with the \$225,000 bond, which could be used to offset the higher purchase price of an electric bus.

The school could also use the money it has saved from not burning gas and diesel while the entire transportation fleet has been unexpectedly in storage over the last three months of the school year. This “coronavirus dividend” could help fund the purchase of an electric bus. Or the school could forego one of the other vehicles in the bond proposition to cover the incremental cost of an electric bus.

Q11. Has Croton100 helped the School to identify specific available funding for an electric bus and how it could minimize some upfront payments?

A 11. Yes. Croton100 has explained that \$120,000 is currently available for the purchase of an electric bus through the [New York Truck Voucher Incentive Program](#). These funds are made available for the purchase of an electric school bus that replaces a diesel school bus under the Congestion Mitigation and Air Quality (CMAQ) program because the air quality in Westchester County falls below federal air quality standards.

The voucher process is set forth in the NYSERDA New York Truck Voucher Incentive [Program Implementation Manual](#). Under this voucher program, the School does not have to pay \$120,000 of the purchase price of an electric bus to the vendor and hope that NYSERDA will provide reimbursement to the School sometime in the future. Rather, the purchase of the electric bus may be provisional, subject to NYSERDA eligibility determination regarding the \$120,000 grant. The voucher amount is subtracted from the sale price of the invoice. Upon completion of delivery of the electric bus and verification of the scrapping of an old diesel bus, NYSERDA pays the voucher amount directly to the vendor. The Program Implementation Manual makes clear that the School does not upfront the funds that are covered by the NYSERDA grant.

Croton100 obtained a price quote from Lion Electric bus company that we submitted to the School which reflects the actual incremental upfront costs of an electric bus to the School

District are significantly less than the full sale price. The Lion proposal itemizes the \$120,000 cost reduction per the NYSEDA incentive program. Croton100 also informed the School that it is likely that the purchase price in the initial proposal from Lion could be negotiated down. Moreover, it was recently explained at a National Conference about electric school buses that the Request for Proposals (RFP) process is a useful way to procure competitive bids that help to further reduce the costs. However, the School has not issued an RFP or negotiated price with any electric bus vendor. Croton100 has provided the School with a sample RFP.

NYSEDA explains that its voucher incentive is designed to facilitate fleet adoption of a new electric bus by "reducing the upfront prices of these vehicles, which are more expensive than comparable diesel vehicles. Vouchers make it more affordable for Fleets to gain experience with cleaner technologies that may cost less to operate than diesel vehicles. In addition, voucher projects result in verifiable emissions reductions and air quality improvements by decommissioning diesel vehicles through a Scrapage process." The voucher program is designed to alleviate some of the financial challenges to make the purchase of an electric bus possible.

Croton100 has also informed the School that based on its discussions with NYSEDA, it is very likely that additional funds from a Volkswagen Settlement Program are likely to be made available at the end of this summer or early fall to cover most, if not all, of the incremental costs of an electric bus.

On May 19, 2020, Croton100 sent the School District a detailed document, including:

- Sources of funding
- Charging infrastructure and subsidies thereof
- White Plain experience with 5 Lion electric school buses
- Firm quote from Lion Electric meeting the school's requirements
- Outlook on closing any remaining financial gap.

Q12. Would a charging station for an electric bus require additional expense, space or wiring?

A12. A charging station is about the size of a bread box, it is smaller than a gas pump and is a routine type of electrical upgrade. Several charging stations have been installed on municipal property in Croton, and there are about 100 electric vehicle charging stations in homes throughout Croton. The wiring for an electric bus is a connection that can use a Type 2, 240-volt charger with 65 amps, which is similar to some residential home chargers. Planning for a charging station with installation can be completed in a few days to a couple of weeks. An electric bus does not require additional space, although it does require an allotted space adjacent to the charger. Compared to the approximately 5,000 gallons of diesel storage the School maintains, electric charging stations would be a safer fuel source for its vehicles. Best of all, funding of \$4,000 is available to install a charging station under the [New York Charge Ready](#) program and the office that accepts applications has re-opened post COVID-19.

The School has stated it intends to use some of the \$225,000 bond money on the June 9 School ballot that was approved by voters to purchase a plug-in/hybrid Chrysler Pacifica plug-in/hybrid

(7 passenger) vehicle. This will require the School to install at least one charging station anyway.

Croton100 applauds the School for its interest in developing a long-term strategic plan for upgrades to the bus depot that would support charging infrastructure for its entire fleet (currently consisting of 44 vehicles) and updated route planning, but such extensive planning is not needed to install a new charger for one new electric bus.

Q13. Would the transition to an electric bus require significant technology-related adjustments by users?

A13. No. Electric vehicles do not require significant technology related adjustments. Determining a suitable fit of a vehicle for our community should not be an insurmountable challenge. School buses, like all vehicles, have industry standards with specifications clearly explained. There are no special skills needed to drive an electric vehicle. There are over a hundred electric vehicles registered in Croton. Croton residents have begun the transition to electric vehicles; the School District should also make the transition now. The White Plains school district has been using 5 electric school buses for over 2 years. Lion Electric provides a free orientation for drivers, maintenance technicians and fleet managers of about 5-6 hours.

Q14. Is the School taking any steps to electrify its fleet?

A14. Yes. Croton100 applauds the School for its plan to buy a Chrysler Pacifica plug-in/hybrid 7 passenger van. However, this is insufficient action to meet the 5% carbon reduction imperative. The two largest vehicles the School plans to buy with the \$225,000 from Proposition 3, a 65-passenger bus and the 34-passenger van, are fully gasoline-fueled vehicles. Collectively, these three vehicles will emit at least 300 tons of carbon dioxide over the next 12 years.

Q15. Has Croton100 done anything to participate constructively in the bus purchase deliberations with the School?

A15. Yes. Croton100 spoke against the purchase of a gas bus in public hearings, submitted written comments, provided written materials about the harmful impact of carbon emitting buses and provided information about concrete funding options to purchase an electric bus and ran a Vote No to Proposition 3 campaign.

Q16. Why would the School buy a gas bus rather than an electric bus?

A16. The School has not adequately explored options with a variety of electric bus vendors, research funding sources, or most importantly, issue a Request for Proposals (RFP) for an electric bus.

Q17. Does the School have any flexibility to use the \$225,000 funds from Proposition 3 to buy an electric bus?

A17. Yes. Even though the School's initial plan was to buy a gasoline bus and other carbon emitting vehicles, the voter approved Proposition 3 itself does not require the School to buy a gasoline bus. The Proposition simply allocates funds to purchase "various buses and vehicles." Croton100 hopes that even though Proposition 3 passed, the School will not purchase a gas bus, but instead could still be persuaded to buy an electric bus. Despite pleas from Croton100 and

members of the community, the School has not yet committed to forego the plan to purchase a gas bus.

Q18. Do the June 9 ballot results provide any voter guidance to the School regarding the purchase of a gasoline bus rather than an electric bus?

A18. Yes. Proposition 3 passed by a relatively small margin compared to the other budget items on the ballot. Croton100 asked residents to use their vote to tell the Croton School District not to borrow money to buy anymore fossil fuel buses. The ballot results were as follows: 1,687 Yes votes for the overall budget and 487 No votes; 1,252 people voted Yes for Proposition 3, while 885 voted No. The Library budget was also passed by a vote of 1,712 Yes votes over 419 No votes.

Accordingly, the Transportation Proposition passed by only 59% of the votes. This is a remarkable outcome. Prior transportation bonds passed by about 80% voter approval. Another stand-out of the ballot results is the No votes on the Transportation Proposition (41%) were significantly more than the No votes for the overall budget (22%) and the No votes on the Library budget (20%). This means some people had stronger negative views of the Transportation Bond Proposition rather than simply being opposed to spending money. Put another way, 1,687 people voted in favor of the overall school budget, but only 1,252 voted in favor of Proposition 3, which is a difference of 435 votes. One would reasonably expect that voters in favor of education expenditures and school bus expenditures would closely align. But, because 435 people favored the overall budget, but not the Transportation bond, it is reasonable to interpret these results to mean that there is a significant portion of voters who do not want the School to buy another gas bus.

Q19. Why aren't the School's statements that it is committed to sustainable action sufficient?

A19. The atmosphere needs actions rather than statements. Integrating an electric bus into the fleet now would provide valuable experience to the School and the community that would help the long-term planning process. The School's statements that it is committed to sustainable actions by forming committees, planning to further study the issue and to pursue funding opportunities for electric buses in the future are insufficient because the world's leading scientists warn us that global warming impacts require *actions* on a rapid and unprecedented pace. The decisions that are made today to continue carbon emissions contribute to global warming by lingering in the atmosphere for decades. Collectively, we must reduce carbon emissions by 5% per year. Buying a gas bus rather than an electric bus now will add another 200 tons of CO₂ to the atmosphere over the next 12 years. The climate science is clear that the next ten years are the critically important window of time for CO₂ reductions. Buying another gas bus now is the wrong thing to do because a gas bus will add carbon to the atmosphere during a time when we must reduce emissions of global warming gases – it takes us in the wrong direction.

The School's plan to purchase another gas bus to add to its 44-vehicle fleet that currently runs on 100% fossil fuels and emits approximately 500 tons of CO₂ from its 400,000 annual miles of transportation is not a meaningful sustainability policy.

Using diesel and gasoline buses are not the most environmentally sound way of transporting students. Croton100 appreciates the School's starter steps, but the School's consideration of carbon emissions in its transportation policy is limited to *de minimis* actions such as restricting idling of fossil fuel vehicles, optimizing transportation routes, encouraging the use of buses rather than individual vehicles, and encouraging students to walk or bike to school. These policies, while important, do not give carbon a meaningful seat at the table. They are far too little for the carbon reduction imperatives we need to meet.

Q20. What is the spirit of Croton100's campaign to persuade the School to buy an electric bus rather than a gas bus?

A20. Croton100 believes the most effective way to communicate our position is through respectful communications, education and advocacy. Croton100 plans to continue to work collaboratively with the School on the goal of transitioning its fleet to electric vehicles, along with other carbon reduction actions in rapid and unprecedented ways as required by the scientific information and the carbon emission reduction goals in New York State law. Croton100 values the public service of the School District's dedicated members of the Board of Education, management team, staff, and teachers and wants the School's students to live in a safe world. Croton100 is committed to work constructively on this campaign and with all members of the community, its partners, businesses and public facilities to reduce carbon emissions in zip code 10520 by 50% by 2030 and 100% by 2040.

Q21. What should people who support the rapid electrification of the School District's transportation fleet, starting with the immediate purchase of an electric bus rather than a gas bus do?

A21.

- Write to the School District leadership with your concerns and ask them to issue an RFP for an electric bus and negotiate the purchase of an electric bus, rather than proceeding to buy a gas bus. The email address for the Board of Education Trustees is boe@chufsd.org. The School District Superintendent Deborah O'Connell's email address is Deborah.oconnell@chufsd.org.
- Share this FAQ document with other residents of the Croton School District and other communities to educate people about electric school buses.
- Promote Croton100's campaign with friends and publicize your support on social media and other public forums.
- Donate to Croton100 to help fund its E-bus campaign and other initiatives.
- Visit our [website](#) to learn more and connect with us through the "Get Involved" or "Contact Us" tabs.