

#FUELCHANGE



ELECTRIC SCHOOL BUS TAKE ACTION TOOLKIT

SEPTEMBER 2019



#FUELCHANGE

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ABOUT THE NETWORK

Green For All is a national nonprofit program of The Dream Corps. We work to build an inclusive green economy strong enough to lift people out of poverty.

In late 2018, Green For All conducted a national talent search, inviting rappers, poets, and singer-songwriters to share what it's like to live on the frontlines of pollution. Four artists of color were selected and featured in a song and music video known as the **#FuelChange Anthem**, which served as the launch of the #FuelChange campaign. The anthem uplifts the personal stories of young people and people of color in the U.S. who have been directly impacted by pollution from the transportation sector. It sheds light on the connection between transportation, climate change, and community health to inspire people to take action for a zero-emission future.

Green For All has since partnered with over a dozen organizations to mobilize a movement of people and resources for zero-emission transportation in neighborhoods across America. And we're starting with school buses!

By using this take action toolkit to bring electric school buses to your neighborhood, you'll be joining a national network of community leaders who are building a better future for all.



PARTNERSHIPS

The #FuelChange Network includes the following participating organizations:

Chispa League of Conservation Voters

Clean Energy Works

Climate Nexus

Climate Reality Project - Los Angeles

Generation 180

Green For All

Metropolitan Energy Center

Mothers Out Front

Schools For Climate Action

Sunrise - Kansas City

Twin Rivers Unified School District

United Methodist Women

Zero Hour

To join the network as an organization, contact mychal@dreamcorps.us

WHY #FUELCHANGE?

The transportation sector is now the number 1 source of carbon emissions in the U.S., which contributes to climate change. Tailpipe emissions also expose people to dangerous toxins that increase their risk of asthma, cancer, and pollution-related diseases. Children and the elderly are especially vulnerable to toxic air emissions.

Approximately 90% of school buses in the U.S. are operated on diesel. There are a total of nearly 500,000 school buses nationwide. According to CleanAirTrust.org, children on diesel school buses are exposed to 5 to 15 times more air toxins than the rest of the population. Diesel emissions exposure has been found to pose as much as 23 to 46 times the cancer risk considered significant for children under federal law. It increases asthma rates, decreases lung function, and can even impact classroom performance.

A growing body of research has linked tailpipe pollution to problems focusing and lower IQ.

25 million

kids in the U.S. ride a school bus on their way to get an education.

Now, there's a better way! The #FuelChange movement is working to replace dirty diesel buses with zero-emission electric school buses (ESBs).

You can take action locally to improve the lives of people where you live, while fighting the global threat of climate change and building a better future for all.

Artwork below by: Valeria R. of Orlando, FL






#FUELCHANGE CAMPAIGN



The #FuelChange campaign has three goals:

- 1** To educate kids, parents, schools and community members about the harmful effects of diesel school buses;
- 2** To empower people from underserved and pollution-burdened neighborhoods to bring electric school buses to their schools.
- 3** To advocate for public funding and inclusive financing that helps make it affordable for schools to make the switch to electric buses.

How we will know we're winning:

-  More kids, parents, schools, and community members are working together to transition dirty diesel school buses to zero-emission electric buses.
-  Schools make a public commitment to buy electric buses, and make a transition towards 100% zero-emission electric school buses.
-  More public funding and inclusive financing is available to help schools afford the upfront costs of going electric. As a result, they are making the switch at a faster pace.

Join us! As a community member, you can raise your voice to influence the transportation decisions of your local school district. Together, we can build a better future.

Text 'FUELCHANGE' to 974-83 to join us.

Step 1: Build a group of local supporters

As you're reading this, know that there are other excited community members around the country just like you, ready to help *#FuelChange* in their neighborhoods. As you prepare to engage with your local school districts to call for a transition to electric buses, it will be helpful to build a local support network.

Some of the benefits of building a group of local supporters:

- The **more people** you have on board with you when you meet with your local school district, the **stronger impression** you'll make. Showing that there are a number of people who share your concerns will let them know this is something they should really look into.
- **Different people bring different skills & resources.** You may find some supporters who can help with researching your school district, or sharing the word about the campaign to other students, parents, and community members.

Here are a couple ways you can bring a team together:

- **Host a #FuelChange meeting** & invite your friends, family, and fellow students, parents, or community members. This can be at your home or places such as a local library. Play the [#FuelChange Anthem music video](#) & what you've learned about diesel buses. Invite the group to share their own concerns and ideas.
- **Attend the next school board meeting in your area.** This is a great place for you to use your voice & elevate your concerns about the use of diesel school buses, as well as your hope to bring electric buses to schools. You can refer to the [#FuelChange Facts](#) sheet for talking points. The more people that are aware of the dangers of diesel buses & the benefits of electric ones, the easier it will be to gain momentum in favor of transitioning fleets. Be sure to let us know how this goes by emailing fuelchange@dreamcorps.us.
- **Gather signatures** from other community members in support of electric school buses. You can [use this signup sheet](#) to collect signatures - gather signatures at places such as PTA meetings, school events, etc. Once you've collected the signatures, please scan & send a copy to fuelchange@dreamcorps.us so we can be sure to loop these folks into the campaign!

At the end of this document, you can find additional resources to help you grow a team of supporters. This includes things such as a signature gathering sheet, info sheets with talking points, infographics you can share, and more. Be sure to share your progress with us at fuelchange@dreamcorps.us.

Step 2: Call your local school district to identify the key decision maker & set a meeting

Who can make the decision to go forward with buying electric school buses?

The person that can decide to say YES to electric school buses is typically the director of the school bus fleet. This person is usually an employee with the school district, or sometimes a 3rd-party operator that has been contracted to provide bus service.

Give your local school district a call (you can find the number via Google search or by calling your local school & asking to be transferred to the district office). **Ask who is in charge of managing the district's bus fleet.** Let them know you are interested in learning more about the school bus fleet & would like to discuss the possibility of bringing electric buses to the district. **Ask to set a meeting;** this can be in person or via phone depending on your availability, however showing up in person can often be much more impactful. **Be sure to fill out this information on the #FuelChange School Worksheet found at the end of this document.**

Sample script: "Hello, my name is _____ & I am a resident/have a child in the _____ school district. I'm interested in learning more about the district's school bus fleet. May I please get the contact information of the person in charge of managing the district's bus fleet? I'm concerned about the use of diesel buses & would like to speak with someone about the possibility of transitioning to electric buses. I would like to set a time to meet with this person to discuss my concerns."

Great job, you've now taken the first step in helping #FuelChange in your community!

Send an email to fuelchange@dreamcorps.us & let us know when you have your meeting set. Include your mailing address and Green For All will send you a #FuelChange sticker made just for community members like you (while supplies last).!

Step 3: Gather information about your local school bus fleet

Now that you have your meeting set, it's time to prepare! To get you excited about the change you're working towards, [watch this ~4 minute video](#) about the largest electric school bus fleet in the country. You can find a **list of questions to ask** at the meeting on the [#FuelChange School Worksheet here](#). **Be sure to fill out the worksheet with the answers you receive.**

Remember, you are here to

- [Share information around the #FuelChange campaign](#)
- Let them know that you would like them to transition the fleet from diesel buses to electric ones
- [Gather information about the school bus fleet](#)

Sample script: "Hello, my name is _____ & I am a resident/have a child in the _____ school district. I've recently begun learning about the harmful effects of diesel school buses & the benefits of electric ones. I've joined a national movement of concerned community members looking to #FuelChange by helping electrify school buses across the country. I'm interested in learning more about this district's school bus fleet & have a few questions I'd like to ask & some information I'd like to share."

Start by sharing the [#FuelChange Info For Schools handout](#). This gives a high level overview of the campaign & how we are looking to support school districts around the country. Common follow up questions you might receive are "how would we pay for these electric buses?" or "we don't have the resources (staff time, etc.) to look into a new system for our fleet". Let them know that you are hoping to work with them on addressing these issues, along with the support of the #FuelChange network of community members & partner organizations. The first steps are learning more about the fleet.

Next, walk through & fill out the [School Fleet Worksheet](#) with them. You may not have time to get through all of the questions in your meeting & the person you are meeting with may not have all of the answers readily available. If you have remaining questions, ask if you can email them to follow up - you can then [send them the form to fill out online](#).

You're doing great! By gathering this information, you are helping push the #FuelChange campaign forward by bringing your school district a step closer to electrifying their bus fleet.

Once you've completed #FuelChange School Worksheet, please [add their responses to the online form](#) (or share the online form with them to fill out themselves). Include your mailing address & Green For All will send you a special #FuelChange tote bag (while supplies last).

Step 4: Continue to #FuelChange in your community

After you've completed & sent us the *#FuelChange School worksheet*, we'll look into additional resources that can be shared with your local school district to help them take the next steps in electrifying their bus fleets. In the meantime, here are some ways you can continue to advocate for a cleaner school transportation system in your community.

- [Volunteer with the #FuelChange campaign to keep the momentum going.](#) We're always looking for different ways to engage with our community members - from joining us at in-person events to contributing written op-eds. By signing up as a #FuelChange volunteer you'll be plugged into various ways you can continue working with us as we look to electrify school buses across the nation.
- [Join the #FuelChange Slack channel!](#) Slack is an online tool we are using to help connect community members like you from around the country that are working to bring clean electric school buses to their communities. You can share updates about how your work is going, ask questions & get feedback & receive updates on upcoming opportunities.
- RSVP for one of our upcoming open video calls where you can connect with the campaign to share updates, ask questions & get feedback, as well as hear from other #FuelChange partners.
 - [RSVP for September 27th \(3pm PT\) open call](#)
 - [RSVP for October 11th \(2pm PT\) open call](#)
 - [RSVP for October 23 \(5pm PT\) open call](#)
 - [RSVP for November 8th \(4pm PT\) open call](#)
 - [RSVP for November 22nd \(3pm PT\) open call](#)

Additional #FuelChange Resources

Videos

[#FuelChange Anthem Music Video](#)

[America's Largest Electric School Bus Fleet video](#)

Factsheets

[#FuelChange School Bus Electrification Fact Sheet \(Page 9\)](#)

Worksheets

[#FuelChange School Worksheet \(print version\) \(Page 12\)](#)

[#FuelChange School Worksheet \(online form\)](#)

[#FuelChange Community Member Sign Up Sheet \(Page 14\)](#)

[#FuelChange Facts Social Media Graphics \(Page 15\)](#)

Bus Electrification Fact Sheet

Electrification Trend: The future is electric!

- California is moving 100% of its bus fleet to electric
 - By 2023 - large transit agencies will need to buy electric buses 25% of the time (small agencies have a few extra years for this goal)
 - By 2026 - 50%
 - By 2029 - agencies will no longer be allowed to buy a bus that isn't electric.
- In May (2019), the Maryland General Assembly passed HB 1255 to create a grant program within the Department of the Environment to help schools transition to electric school buses.
- In May (2019) Nevada passed SB 299, a bill that will dedicate funding for electric school buses is advancing through the legislature, along with a 50% renewable portfolio standard!
- **Cities are recognizing the benefits of going electric:**
 - New York City 5,700 buses [will be all-electric by 2040](#)
 - Los Angeles, [all 2,300 buses](#) to electric by 2030
 - San Francisco, home to 1,100 municipal buses, just announced [it will be all-electric by 2035](#) and will only purchase electric buses by 2025.
- **School districts** in Chicago, Massachusetts, Minnesota, New York, and Sacramento all have electric buses.
 - This year, thanks to the community advocacy of Chispa-LCV members in Arizona, [Phoenix](#) Unified High School District will plan to invest this year in their first electric bus and EV charging stations, tour electrified districts across the country, and partner with other Phoenix districts to explore shared infrastructure for up to five new buses in the next phase of this pilot.

Health Impacts

Adult exposure to diesel pollution contributes to

- 27,000 heart attacks
- 14,500 hospitalizations
- 2.4 million lost work days each year

Children exposure from diesel soot from school buses has also been associated:

- reduced lung function
- increased incidences of pneumonia

General Impact of Diesel Pollution

- Diesel exhaust has carbon particulates and 40 chemicals that are classified as “hazardous air pollutants” under the Clean Air Act.¹
- Diesel pollution inside the bus can be up to five times higher than outside.²
- Diesel pollution contributes to allergies, upper respiratory disease, and asthma.³

Impact of Diesel School Bus Pollution on Children

1 Environment and Human Health Inc. “Children’s Exposure to Diesel Exhaust on School Buses”

<http://www.ehhi.org/reports/diesel/dieselintro.pdf>

2 Environmental Defense: Clean Buses Brochure https://www.edf.org/sites/default/files/8085_school_bus_brochure.pdf

3 Environment Committee: JOINT FAVORABLE REPORT Bill No.: SB-1032://www.cga.ct.gov/2007/IFR/S/2007SB-01032-R00ENV-IFR.htm

- Children that ride diesel school buses are exposed to 5 to 15 times more air pollution than the rest of the population.⁴
- Children may be more susceptible to negative respiratory effects from exposure to diesel pollution. Children breathe twice as much per their body weight as adults and have narrower airways, which allow pollution to enter the lungs more easily.⁵
- Nearly 4.8 million children nationwide suffer from asthma, with the cost for medical care approximately \$500 per child.⁶

Impact of Diesel Pollution on People of Color

- African Americans and Hispanics have the highest rates of asthma.⁷
- African Americans are 3-4 times likelier to both be hospitalized and die from asthma than whites.⁸
- Traffic pollution from dirty diesel cars, trucks, and buses is the number one source of carbon emissions in the U.S. and kills almost twice as many people as traffic accidents.⁹
- Low-income residents and people of color are more likely to live near busy freeways and highways, increasing their risk of exposure to toxic air pollutants.¹⁰
- People of color pollute less than Whites but suffer the burden of pollution more.¹¹
- African Americans are exposed to 56% more pollution than they cause and Hispanics are exposed to 63% more pollution¹²

Diesel Buses Vs. Electric Buses

- Electric buses are responsible for fewer carbon emissions than diesel buses on the current U.S. electrical grid.¹³
- Electric buses are equivalent to diesel buses running at 37.3 miles per gallon. An actual diesel bus only gets 4.8 miles per gallon.¹⁴
- Electric buses are cheaper than diesel buses to operate. Electric buses cost approximately 19 cents per gallon and diesel buses cost approximately 82 cents per gallon.¹⁵

4 Environment Committee: JOINT FAVORABLE REPORT Bill No.: SB-1032 <https://www.cga.ct.gov/2007/JFR/S/2007SB-01032-R00ENV-JFR.htm>

5 Environment and Human Health Inc. "Children's Exposure to Diesel Exhaust on School Buses" <http://www.ehhi.org/reports/diesel/dieselintro.pdf>

6Environment and Human Health Inc. "Children's Exposure to Diesel Exhaust on School Buses" <http://www.ehhi.org/reports/diesel/dieselintro.pdf>

7 Asthma and Allergy Foundation of America <https://www.aafa.org/burden-of-asthma-on-minorities/>

8 Reimagine: Dr. Robert D. Bullard <https://www.reimagineerpe.org/node/306>

9 Reimagine: Dr. Robert D. Bullard <https://www.reimagineerpe.org/node/306>

10 Fortune: HEALTH POLLUTION

If You're a Minority and Poor, You're More Likely to Live Near a Toxic Waste Site" <http://fortune.com/2016/02/04/environmental-race-poverty-flint/>

11National Public Radio: "Study Finds Racial Gap Between Who Causes Air Pollution And Who Breathes It" <https://www.npr.org/sections/health-shots/2019/03/11/702348935/study-finds-racial-gap-between-who-causes-air-pollution-and-who-breathes-it>

12 Associated Press: "Blacks, Hispanics breathe more pollution than they make" <https://www.apnews.com/f6bf2f47c81c4958811dc4e99d526197>

13 Green Tech Media "Study: Electric Buses Already Emit Less Carbon Than Diesel Buses, in Any State" <https://www.greentechmedia.com/articles/read/study-electric-buses-already-emit-less-carbon-than-diesel-buses-in-any-stat#gs.atw30h>

14 Green Tech Media "Study: Electric Buses Already Emit Less Carbon Than Diesel Buses, in Any State" <https://www.greentechmedia.com/articles/read/study-electric-buses-already-emit-less-carbon-than-diesel-buses-in-any-stat#gs.atw30h>

15 Government Technology "Electric Buses Are Not Only Clean but Less Costly to Run" <https://www.govtech.com/workforce/Electric-Buses-Are-Not-Only-Clean-but-Less-Costly-to-Run.html>

- Electric buses are getting cheaper to buy. The price of a lithium-ion battery, the choice for many electric buses, has dropped 80 percent since 2010 and is estimated to drop another 50 percent by 2050.¹⁶
- U.S. school districts could save 2.9 billion dollars annually by switching from diesel to electric bus fleets.¹⁷

Electric Buses and Community Health

- Replacing all school buses with electric buses could avoid an average of 5.3 million tons of greenhouse gas emissions each year.¹⁸
- Electric buses eliminate pollutants in the air that cause asthma, upper respiratory disease and higher rates of mortality.¹⁹
- Electric buses = cleaner, healthier neighborhoods

TALKING POINTS: Electric compared to Alternative Fuel Buses:

- Carbon emissions reductions are just as important as public health. From a carbon standpoint, electric is way better.
- Also, have to consider the upstream emissions, natural gas manufacturing has had leakage of tons of methane.
- Propane and compressed natural gas poses safety risks that electric don't. Do you really want your kid riding around in a school bus that's one crash or stray spark away from becoming an explosive bomb?
- Consider lifetime of vehicle on the road -- it can be over a decade. We shouldn't lock ourselves into tech that's going to become obsolete. We should be investing in the best available technology.

¹⁶ Environmental and Energy Study Institute: "Fact Sheet: Battery Electric Buses: Benefits Outweigh Costs"
<https://www.eesi.org/papers/view/fact-sheet-electric-buses-benefits-outweigh-costs>

¹⁷ Forbes "Electric Buses Can Save Local U.S. Governments Billions. China's Showing Us How It's Done"
<https://www.forbes.com/sites/energyinnovation/2018/05/21/electric-buses-can-save-americas-local-governments-billions-chinas-showing-us-how-its-done/#565ad49d5f78>

¹⁸ US P.I.R.G. Education Fund "Electric Buses Clean Transportation for Healthier Neighborhoods and Cleaner Air"
<https://uspig.org/sites/pirg/files/reports/Electric%20Buses%20-%20National%20-%20May%202018%20web.pdf>

US P.I.R.G. Education Fund "Electric Buses Clean Transportation for Healthier Neighborhoods and Cleaner Air"
¹⁹ <https://uspig.org/sites/pirg/files/reports/Electric%20Buses%20-%20National%20-%20May%202018%20web.pdf>

FuelChange School Fleet Worksheet

Fill out this worksheet based on your meeting with your local school district. Once completed, please add the answers to the [online form here](#).

Your name: _____

Your email: _____

Your phone number: _____

Date: _____

Name of the school district: _____

City & state the school district is in: _____

Name/title of the person in charge of the bus fleet: _____

Fleet manager's email & phone number: _____

Basic bus fleet information	
How many school buses are currently in the district's fleet?	
How many of the school buses in the district's fleet are electric?	
Does the school district own buses directly, or does it hire private contractors with bus fleets to run the bus service?	
If so, how many contracts, and when are they up for negotiation?	
Who makes purchasing decisions for new buses?	
How has the district paid for buses in the past?	

Does the district currently have any plans to purchase an electric bus?	
What's the district's buying (procurement) schedule -- how many buses do they plan to buy & on which years over the next 10 years?	
What's a typical bus retirement age?	
How much does the district currently pay for buses?	
How much do they pay for fuel for their current buses?	
What are their current maintenance costs per bus?	
How much are they currently paying for electricity?	
What are annual average miles driven across their whole fleet?	
What is the longest route one of your buses takes?	
What budget constraints does the school district face regarding new buses?	
Where are the buses housed and what are those facilities like?	
Are the buses housed in a garage or parking lot?	
Where do the buses go for maintenance? Is it on-site where they are housed or sent somewhere else?	

FuelChange Community Member Support Sign Up

When approaching your local school district about moving to using zero-emission electric school buses, it can be helpful to show that there is broad public support from members of the community.


Before your meeting with the school district's transportation decision makers, you can use the sheet below to collect signatures from other community members located in your school district to show they agree that it's time to prioritize students' healthy futures. Be sure to bring a copy of the signatures to drop off at your meeting!

Start with people you know (parents of other students, friends, family, etc.). If you attend your local PTA or city hall meeting you can ask to make an announcement. If you visit your local community center, there are often bulletin boards where you can post materials - you can include a copy of the [#FuelChange Facts infographics](#). If you are able, you can take some time to visit your local school as the day is ending & speak to parents in person as they are picking up their students.

Once you've collected signatures, you should scan & email the document to FuelChange@dreamcorps.us or mail a copy to:

% Green For All
436 14th Street Suite 920
Oakland, CA 94612

#FuelChange Facts Social Media Graphics



**#FUELCHANGE
FACT**

Nearly **4.8 million children** nationwide suffer from asthma, with the cost for medical care approximately **\$500 per child.***

*Environment and Human Health Inc.

Get on board and bring clean buses to your neighborhood at FuelChangeNow.com

#GREEN FOR ALL




**#FUELCHANGE
FACT**

Electric buses are cheaper than diesel buses to operate. Electric buses cost approximately **19 cents per gallon** and diesel buses cost approximately **82 cents per gallon.***

*Source: David Miller and Ryan J. Smith, "Electric Buses: A New Solution to the Problem of Diesel Pollution," U.S. EPA, October 2014, EPA-600/R-14/001.

Get on board and bring clean buses to your neighborhood at FuelChangeNow.com

#GREEN FOR ALL



**#FUELCHANGE
FACT**

Children that ride diesel school buses are exposed to **5 to 15 times more air pollution** than the rest of the population.*

*Source: <https://www.epa.gov/2007/JFR/S/2007SB-01032-R000N-V-JFR.htm>

Get on board and bring clean buses to your neighborhood at FuelChangeNow.com

#GREEN FOR ALL




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Children that ride diesel school buses are exposed to **5 to 15 times more air pollution** than the rest of the population.*

*Source: <https://www.epa.gov/2007/JFR/S/2007SB-01032-R000N-V-JFR.htm>

Get on board and bring clean buses to your neighborhood at FuelChangeNow.com

#GREEN FOR ALL



**#FUELCHANGE
FACT**

U.S. school districts could save **2.9 billion dollars annually** by switching from diesel to electric bus fleets.*

*Source: Forbels.com

Get on board and bring clean buses to your neighborhood at FuelChangeNow.com

#GREEN FOR ALL



**#FUELCHANGE
FACT**

Clean fuel and updated pollution control measures for school buses could result in **14 MILLION fewer absences a year.***

*<https://www.sciencedaily.com/releases/2015/04/15042314822.htm>

Get on board and bring clean buses to your neighborhood at FuelChangeNow.com

#GREEN FOR ALL

FuelChange Info For Schools

"It's hard to learn when you can't breathe...School buses should be as clean as they are safe." - Green For All Founder, Van Jones

Over 25 million kids a day ride school buses that expose them to toxins and known carcinogens. Dirty diesel school buses are basically refineries on wheels. The soot and particulate matter that spews out of them while kids line up alongside the bus waiting to board -- and the tiny particulates that enter the bus through open windows as they travel -- get embedded deep into their lungs. This can cause severe breathing problems, asthma, and other respiratory issues. But we can change that.

The #FuelChange campaign is supported by community members, environmental organizations & participating school districts around the country. We are working together to help schools transition away from polluting diesel buses to clean electric school buses.

We recognize there are often obstacles in the way of this transition, including:

- Financing the additional costs of electric school buses vs. traditional diesel
- Having the staff capacity to research funding options
- Navigating the various levels of bureaucracy necessary for this type of change

Our campaign is working to connect school districts with available resources to help ease this transition, such as sharing various funding opportunities, connecting them with other school districts that have successfully incorporated electric school buses, and showing some of the first steps you can take to bring them to your school district.

Our first step is learning more about your school district's current bus fleet. You can share your answers with the community member meeting with you, or [submit your information to this online form here](#).