



**EESI**

Environmental and  
Energy Study Institute

**Materials will be available at:**

**[www.eesi.org/092822school](http://www.eesi.org/092822school)**

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# Back to School: Catalyzing Climate Action in K-12 Schools

Wednesday, September 28, 2022

# About EESI



## **Non-partisan Educational Resources for Policymakers**

A bipartisan Congressional caucus founded EESI in 1984 to provide non-partisan information on environmental, energy, and climate policies



## **Direct Assistance for Equitable and Inclusive Financing Program**

In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs



## **Commitment to Diversity, Equity, Inclusion, and Justice**

We recognize that systemic barriers impede fair environmental, energy, and climate policies and limit the full participation of Black, Indigenous, people of color, and legacy and frontline communities in decision-making



## **Sustainable Solutions**

*Our mission is to advance science-based solutions for climate change, energy, and environmental challenges* in order to achieve *our vision of a sustainable, resilient, and equitable world.*

# Polycymaker Education

## Briefings and Webcasts



Live, in-person and online public briefings, archived webcasts, and written summaries

## Climate Change Solutions



Bi-weekly newsletter with everything policymakers and concerned citizens need to know, including a legislation and hearings tracker

## Fact Sheets and Issue Briefs



Timely, objective coverage of environmental, clean energy, and climate change topics

## Social Media (@EESIOnline)



Active engagement on Twitter, Facebook, LinkedIn, and YouTube





**THIS IS** ⚡  
**PLANET ED**

aspen institute

# Catalyzing Climate Action in K-12 Schools

Laura Schifter

September 28, 2022

EESI Congressional Briefing



The education sector at a systems level has not yet been vocal in its role in addressing climate change

AND

Large-scale climate solutions have not considered the role education can play



There are 98,000 schools, each with its own carbon footprint.

To serve children and youth, public K-12 schools have significant energy, food, and transportation needs. In fact, K-12 schools:

- Are the largest consumers of energy for public sector buildings,
- Serve over 7 billion meals annually with related food waste, and
- Use about 480,000 diesel school buses, the largest mass transit fleet in the country.

As public entities, schools need policy to transition to sustainability, AND...





With 50 million children and youth in America's public K-12 schools,

while transitioning to sustainability, they *can educate their students* about the process...

thereby *preparing youth* with knowledge and skills to confront the environmental challenges of the future.



**Rep. Carlos Curbelo**

Vocero LLC

<https://youtu.be/twB3qu22Y1M>





# Focus Areas

K12 Climate Action will focus on supporting schools to:

- ***Mitigate.*** Transition to more sustainable operations including energy, transportation, and food use.
- ***Adapt.*** Build resilience in preparation for disruptions and negative impacts related to climate change.
- ***Educate.*** Support teaching and learning to equip children and youth with the knowledge and skills to build a more sustainable world.
- ***Advance equity.*** Center equity to ensure diverse voices are elevated and prioritize the needs of under-resourced urban and rural communities and historically underrepresented students and families.

# Listening Tour

Listening Session I: Why Should Schools Move Towards Climate Action?

Listening Session II: How Can Schools Mitigate Their Climate Impacts?

Listening Session III: How Can Schools Adapt to the Impacts of Climate Change?

Listening Session IV: How Can Schools Support Teaching and Learning to Address Climate Change?

Listening Session V: How Can CTE & Out-of-School Programs Address Climate Change?

Listening Session VI: Growing the Movement for Climate Action in Schools



## Districtwide switch to renewable energy yields millions in savings

BY JAVIER GIRIBET-VARGAS ON APRIL 22, 2022

INSIDE DALLAS

Dallas ISD's latest sustainability effort is on track to save the district over \$1 million every year.

## Student-initiated resolution to power Salt Lake City School District with 100% clean energy adopted

By **Renewable Energy World** - 6.8.2020

## 'For Our Children's Sake': Miami Dade Schools Commit To 100% Clean Energy By 2030

## NYC Aims for Fleet of All-Electric School Buses by 2035

By **Ryan Gray** April 22, 2021

## MCPS to become nation's biggest operator of electric school buses

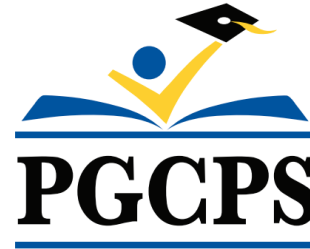




2040

# SUSTAINABILITY ACTION PLAN

*Sustainability, Clean Energy, and Carbon Neutrality*



## Climate Change Action Plan (CCAP) Priority Recommendations

Prepared by the PGCPS Board of Education  
Climate Change Action Plan Focus Work Group



# K12 CLIMATE ACTION PLAN 2021



# Policy Recommendations



**Local Recommendation 2: Develop and implement comprehensive local K-12 climate action plans to consider the needs and opportunities to mitigate, adapt, educate, and advance equity to address climate change.**

***2.1. Support mitigation strategies to transition the district to clean energy, clean transportation, sustainable food use, and building electrification and to promote healthy learning environments with improved air quality and safe drinking water that are free of environmental toxins.***

***2.1.A: Assess school infrastructure needs and create plans to ensure all students have access to healthy sustainable learning environments.***

***2.1.B: Utilize renewable energy.***

***2.1.C: Transition school bus fleets to electric.***

***2.1.D: Support healthy sustainable food use.***



## **Local Recommendation 2: Develop and implement comprehensive local K-12 climate action plans to consider the needs and opportunities to mitigate, adapt, educate, and advance equity to address climate change. (cont'd)**

***2.1. Support mitigation strategies to transition the district to clean energy, clean transportation, sustainable food use, and building electrification and to promote healthy learning environments with improved air quality and safe drinking water that are free of environmental toxins.***

***2.1.E: Use replacements to support clean energy, transportation, and building electrification.***

***2.1.F: Provide workforce development and training for school support staff to maximize benefits and success for transition to sustainable operations.***



## Federal Recommendation 2: Support the development and implementation of local K-12 climate action plans.

Grants from the federal government can be used to help school districts develop and implement comprehensive climate action plans to mitigate, adapt, educate, and advance equity to address climate change. These grants can support planning based on local needs, assets, and interests and collaborative development with the community. They can prioritize community efforts to leverage existing federal, state, and local funding to support the plan's implementation and to coordinate with local climate action plans at the town, city, or county level.

**ThisIsPlanetEd.org**

**Laura Schifter**

**[laura.schifter@aspeninstitute.org](mailto:laura.schifter@aspeninstitute.org)**

**Appendix**



# **Federal Recommendation 1: Elevate and amplify the role education can play in climate solutions.**

The White House, Department of Education, and other agencies can use their platforms, convening power, and resources to help communicate the need and opportunity for the education sector to contribute to climate solutions.

***1.1: Build cross-agency collaboration to support the education sector in taking climate action.***

***1.2: Establish climate change as a U.S. Department of Education priority.***

***1.3: Center student voice in developing plans to support the education sector in taking climate action.***

***1.4 Research, recognize, and effectively disseminate best practices gathered across federal agencies to provide states, districts, and schools with easy access to information, research, and strategies to support the sector in moving to climate action.***



## **Federal Recommendation 3: Advance federal policies and programs to support mitigation, adaptation, and resilience:**

***3.1: Invest in school infrastructure to promote clean energy, clean air, clean water, sustainable schoolyards, sustainable food, and adaptation.***

***3.2: Support the transition to electric school bus fleets.***

***3.3: Expand access to locally-grown, healthy, sustainable food and increase opportunities for food donation, food rescue, and composting.***

***3.4: Increase broadband access for schools and families.***

***3.5: Establish financing opportunities through tax incentives, bond authority, and revolving loan funds.***

## **Federal Recommendation 4: Advance federal policies and programs to support education:**

***4.1: Prepare youth for jobs in the clean economy and integrate environmental sustainability across all career pathways through career and technical education.***

***4.2: Enable professional development and teacher preparation programs to support teaching and learning on climate change, climate solutions, and environmental justice.***

***4.3: Emphasize the importance of Indigenous knowledge systems and disseminate best practices to build broader awareness of Indigenous knowledge.***



**Electric  
School Bus**  
INITIATIVE

# ELECTRIC SCHOOL BUSES AND THE ROAD TO DECARBONIZATION

**EESI Briefing: Back to School: Catalyzing Climate Action in K-12 Schools, September 28, 2022**

# ABOUT WRI

WRI is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity and human well-being.



# OUR AIM: ELECTRIFY THE ENTIRE U.S. FLEET BY 2030

- Partner with communities, school districts, industry experts, manufacturers, utilities, and policy makers to **transform and electrify** the school bus market
- Together, build unstoppable momentum to **electrify** 480,000 school buses in the U.S. by 2030
- Ensure an **equitable transition** by focusing on underserved communities





# THE DECARBONIZATION OPPORTUNITY

School buses represent a unique opportunity to influence greenhouse gas emissions in both the transportation and energy sectors.

Build out medium-and-heavy-duty EV manufacturing capabilities

Advance medium-and-heavy-duty battery production and design

Support renewable energy grid integration

Normalize electric mobility for an entire generation

# WHY ELECTRIFY THE U.S. SCHOOL BUS FLEET?

Electrification can accelerate decarbonization while bringing direct, tangible benefits to every community



**Improved health** and cognitive outcomes for children



**Cleaner air** than with diesel buses, especially in communities of color



**Reduced operating expenses** for school districts



**New jobs** in green manufacturing



A **tipping point** for MHD + electrification



Enhanced **resiliency** and **renewables integration** with V2G

# DIESEL BUSES HARM HEALTH & DEVELOPMENT

- Diesel exhaust pollutants can lead to **asthma, cancer and other respiratory illnesses**.
- There are **documented negative impacts** on both student health and academic performance – and there is increasing evidence that **children are particularly susceptible**.
- Diesel exhaust pollution is a **known carcinogen**.
- Reducing students' exposure to air pollution from school buses has **positive and significant effects on some test scores**.



# THE BURDEN OF AIR POLLUTION IS INEQUITABLE

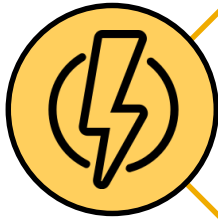


- **60% of low-income students** take the bus compared to 45% of non-low-income students
- Fine PM exposure from on-road sources can be **75% higher for Latinos, 73% higher for Asian Americans, and 61% higher for African Americans**
- Native American children are **1.5 times more likely to have asthma** as non-Hispanic white children.

# THE STATUS OF SCHOOL BUS ELECTRIFICATION



**480,000+** school buses in the U.S.



Less than **1%** are electric



School districts in 38 states have deployed or committed to ESBs

# ESB ADOPTION GROWTH SURGING

## CUMULATIVE NUMBER OF ELECTRIC SCHOOL BUSES COMMITTED BY QUARTER IN THE UNITED STATES (2014-2022)

### First U.S. Electric School Buses Begin Operation

California's Kings Canyon School District and Escondido Union High School begin operating first electric school buses with one each

### First Large-Scale Utility Program

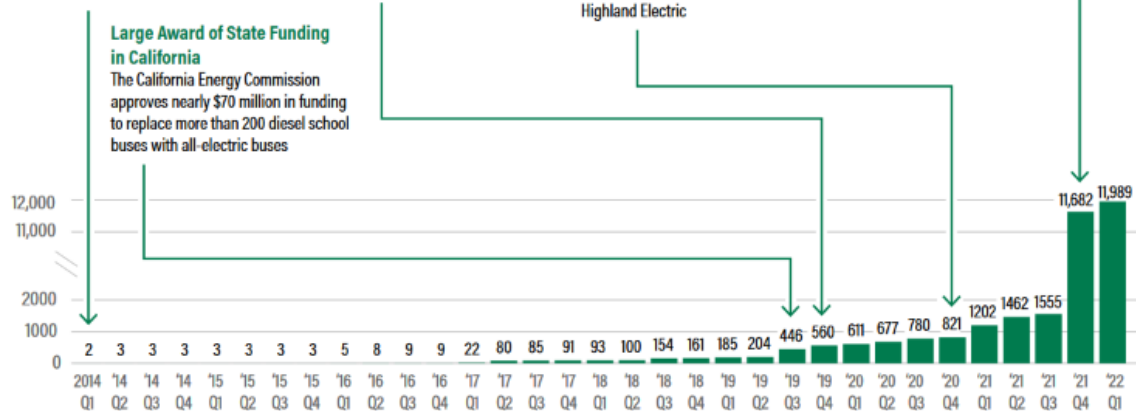
Dominion Energy announces it will offset the additional costs of an electric school bus, including charging infrastructure, for 50 buses across its Virginia service territory

### Largest Procurement of Electric School Buses

Montgomery County Public Schools, MD, announces it will replace 326 diesel school buses with electric school buses over four years through a contract with Highland Electric

### Largest Partnership for Repowered Buses

SEA Electric and Midwest Transit Equipment announce they will partner to convert 10,000 school buses to electric over five years



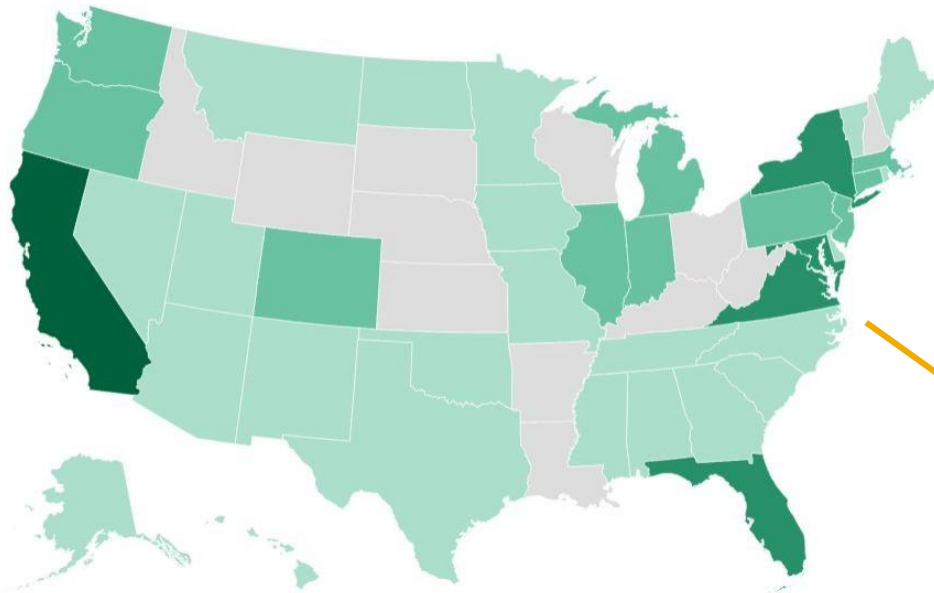
Notes: This graph depicts electric school bus (ESB) commitments at the earliest confirmed phase in the commitment process (awarded, ordered, delivered, or first operating)—286 ESBs were excluded due to unknown dates of their commitment stages. Abbreviation: Q = quarter.

Source: Based on Lazer and Freehafer 2022.

# ELECTRIC SCHOOL BUS CONCENTRATION

Committed\* electric school buses by state

0 1-10 11-100 101-500 501+



- Electric school buses are operating in **every type of community** and have been committed to in 38 states
- 25% are in school districts in the top quartile for % of low-income households

Leading state commitments:

- California: 1376 electric school buses
- Maryland: 336 electric school buses
- Florida: 218 electric school buses

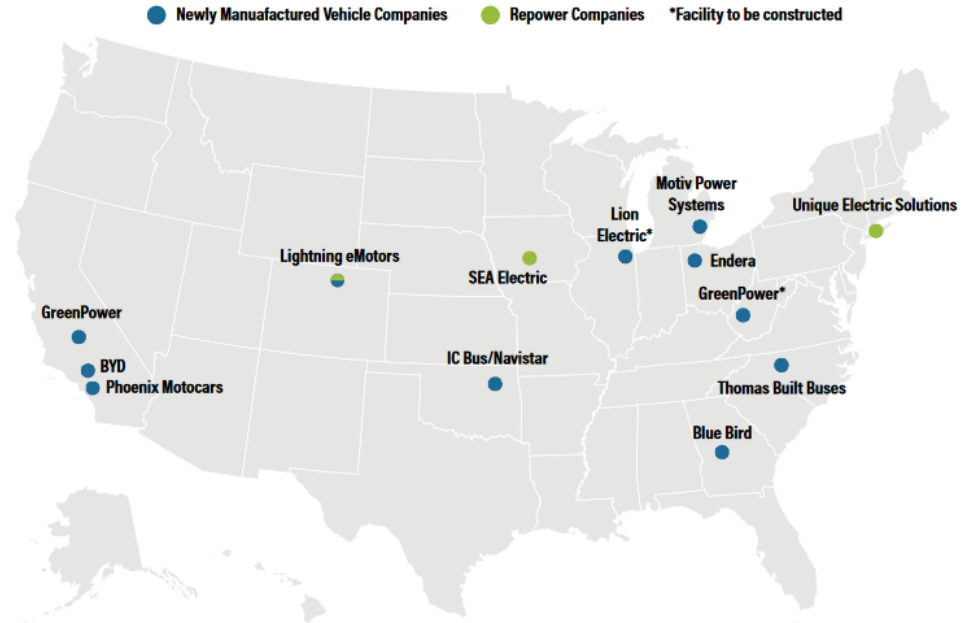
Source: [Lazer and Freehafer, 2022](#) - Data as of June 2022

\*awarded, ordered, delivered, or in operation

# SUPPLY: MANUFACTURERS SCALING UP TO MEET DEMAND

- Blue Bird: 6x expansion in 2020; more in 2022
- Lion Electric: new IL plant, 20,000 e-trucks/buses per year
- GreenPower: 2x production capacity in 2021; WV facility

MAP OF ELECTRIC SCHOOL BUS MANUFACTURING FACILITIES IN THE UNITED STATES



Notes: This map does not include electric school bus manufacturing facilities in Canada. Lion Electric and Micro Bird both have facilities in Quebec.

Source: WRI authors based on publicly available information.



# SUPPLY: GROWING NUMBER OF MODELS

22 ESB models available

- 12 manufacturers across Type A, C and D buses
- Includes newly manufactured and repowered electric school buses

## AVAILABLE NEWLY MANUFACTURED ELECTRIC SCHOOL BUSES (TYPE C)

	Blue Bird	Lion	Thomas	IC Bus/Navistar	BYD
MODEL	BLUE BIRD VISION	LIONC	SAF-T-LINER C2 JOULEY	IC CE SERIES ELECTRIC BUS/ PB10E	TYPE C
Price range	\$326,810–\$365,000 <sup>a</sup>	\$338,253–\$422,302 <sup>b</sup>	\$335,287–\$437,000 <sup>c</sup>	\$347,870–\$364,123 <sup>d</sup>	Not available
Length (L)/width (W)/height (H)	L: Max 477" W: 96" H: 123"	L: 473" W: 96–102" H: 122"	L: 396" W: 96" H: 144"	L: 303.9"/474.9" W: 96" H: 123"	L: 435"/462" W: 102" H: 132.9"
Passenger capacity	77	77	81	29–72	78

# GROWING MOMENTUM OF REPOWERS

**Repower:** A process that involves removing a vehicle's original engine and replacing it with a new engine or power source (such as an electric drive system).

- Can help:
  - Reduce upfront price
  - Alleviate supply chain delays
  - Divert waste from diesel buses
- Fleets can have *both* newly manufactured and repowered buses
- Not every bus is a good candidate for repowering – speak with repower OEM

## Midwest Transit Equipment and SEA Electric to power 10,000 electric school buses

The Big Deal About NYC's First Electric School Buses Being Diesel Repowers

By Joseph Wachunas January 7, 2022

Infrastructure, Newswire, The



Pioneer Transportation Selects Unique Electric Solutions (UES) to Repower Diesel Buses to Battery Electric



Blue Bird to Offer Electric Repower Option for Gasoline- and Propane-Powered School Buses



- Blue Bird expands collaboration with Lightning eMotors to offer factory certified electric repower program
- Blue Bird customers can future-proof their school bus fleet by purchasing gasoline- or propane-powered vehicles and converting them easily and cost-effectively to zero-emission, electric buses later
- Repowering seen as an excellent bridge strategy to electrification for school bus fleets



# NEW FEDERAL CLEAN SCHOOL BUS PROGRAM



In November 2021, Congress passed the bipartisan Infrastructure Investment & Jobs Act, including a **record \$5 billion** to replace older, polluting school buses with cleaner and electric school buses.



That includes **\$2.5 billion in dedicated, standalone funding for electric school buses** and another \$2.5 billion for electric and low-emissions school buses.



**EPA** has launched the **Clean School Bus Program** to disburse the funding through annual rebate and grant applications, providing multiple opportunities for schools to apply over 5 years.

Department of Transportation, Department of Energy, and other agencies have the opportunity to provide ESB funding beyond the \$5 billion allocated to EPA

# CSBP'S 2022 REBATE FUNDING OPPORTUNITY (1<sup>ST</sup> ROUND)

- **Who is eligible?**

- School districts, charter schools, Tribes, non-profit school bus associations, and school bus dealers/manufacturers
- **Priority applicants:** High-need school districts & low-income areas; Rural school districts; Tribal school districts

- **How will it work?**

- Online applications into a lottery – closed August 19
- Funds transferred upfront, after order and before purchase/delivery
- Two years to obtain buses, document disposal of old buses
- Upgrades needed by utility will *not* be covered – districts starting conversation with their utilities

- **What's Next?**

- Overwhelming response in this first RFA
- Applications currently under eligibility review
- Award announcements expected imminently
- Next funding opportunity to open later this year – grant applications



# CSBP'S 2022 REBATE MAXIMUM AWARDS

Maximum Bus Funding Amount per Replacement School Bus

School District Prioritization Status	Replacement Bus Fuel Type and Size					
	ZE – Class 7+	ZE – Class 3-6	CNG – Class 7+	CNG – Class 3-6	Propane – Class 7+	Propane – Class 3-6
Buses serving school districts that meet one or more prioritization criteria	\$375,000	\$285,000	\$45,000	\$30,000	\$30,000	\$25,000
Buses serving other eligible school districts	\$250,000	\$190,000	\$30,000	\$20,000	\$20,000	\$15,000

Maximum Infrastructure Funding Amount

School District Prioritization Status	ZE – Class 3+ Infrastructure Funding
Buses serving school districts that meet one or more prioritization criteria	\$20,000
Buses serving other eligible school districts	\$13,000

Winners are responsible for any costs beyond maximum rebate amounts

# ESB SUPPORT IN THE INFLATION REDUCTION ACT

## *Additional support for electric school buses via Inflation Reduction Act*

- **\$1 billion to electrify medium & heavy-duty vehicles, including school buses**
- **Up to \$40,000/vehicle over 14,000 lbs in a qualified Commercial Clean Vehicle Tax Credit**
- Up to \$100,000/property in the Alternative Fuel Refueling Property Credit (chargers)
- Rural Energy for America Program
- Greenhouse Gas Reduction Fund
- Funding to Address Air Pollution at Schools
- Environmental and Climate Justice Block Grants
- Advanced Manufacturing Production Credit
- Domestic Manufacturing Conversion Grants



# STATE POLICY MOMENTUM ON ESBS



Transition targets (NY, CT, MD, ME)



New state (CO, NJ) and utility (IN, MD) funding programs



Modifications to education transportation funding, contract terms, ESB eligibility (WA, ID, MS)



Manufacturing support and adders for in-state produced buses (WV)

ARE YOU READY TO GET ON BOARD?





**Electric**  
**School Bus**  

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**INITIATIVE**

**THANK YOU**

*Find out more at [wri.org/electric-school-buses](https://wri.org/electric-school-buses)*



**FOOD WASTE  
WARRIORS**

# Our Mission

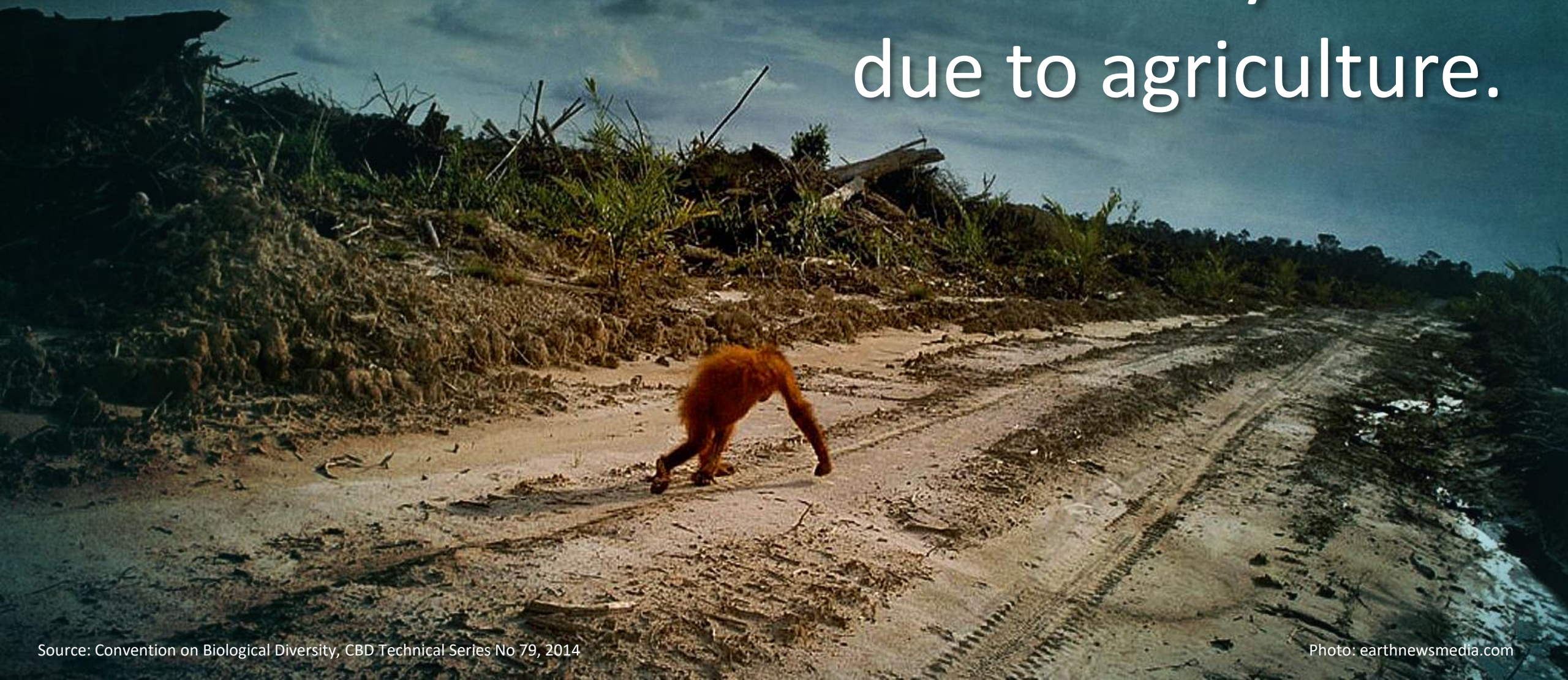
## WWF PROTECTS THE FUTURE OF NATURE

- ✓ We are a global science-based organization
- ✓ We work with companies and communities
- ✓ ***We strive to meet the needs of both people and nature***

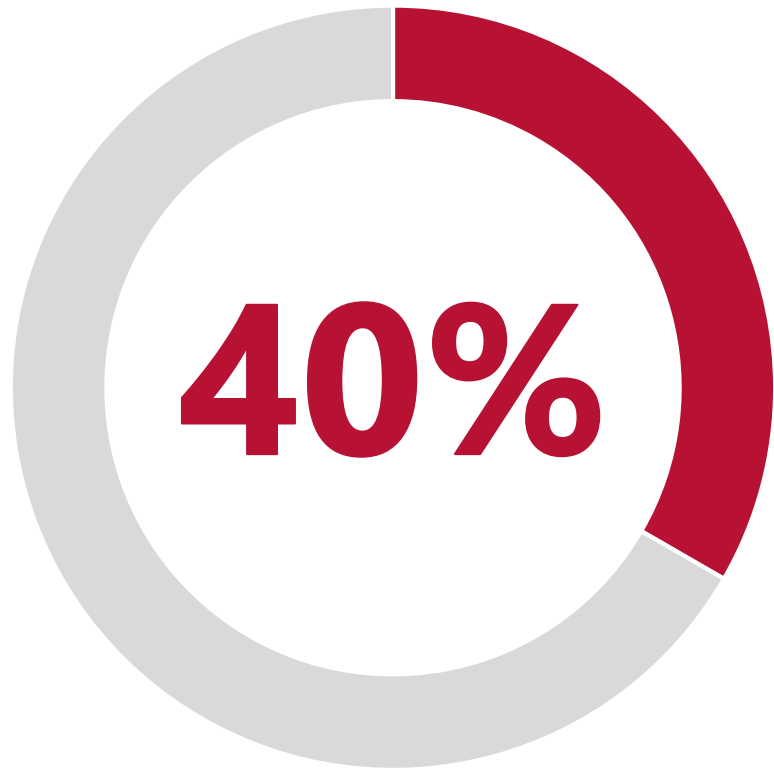




**70%** of biodiversity loss is  
due to agriculture.



Food waste is a huge inefficiency in the food system—



it's estimated that **40% of all food produced globally** is lost or wasted.

Landfills are the **3rd largest** emitter of global methane.



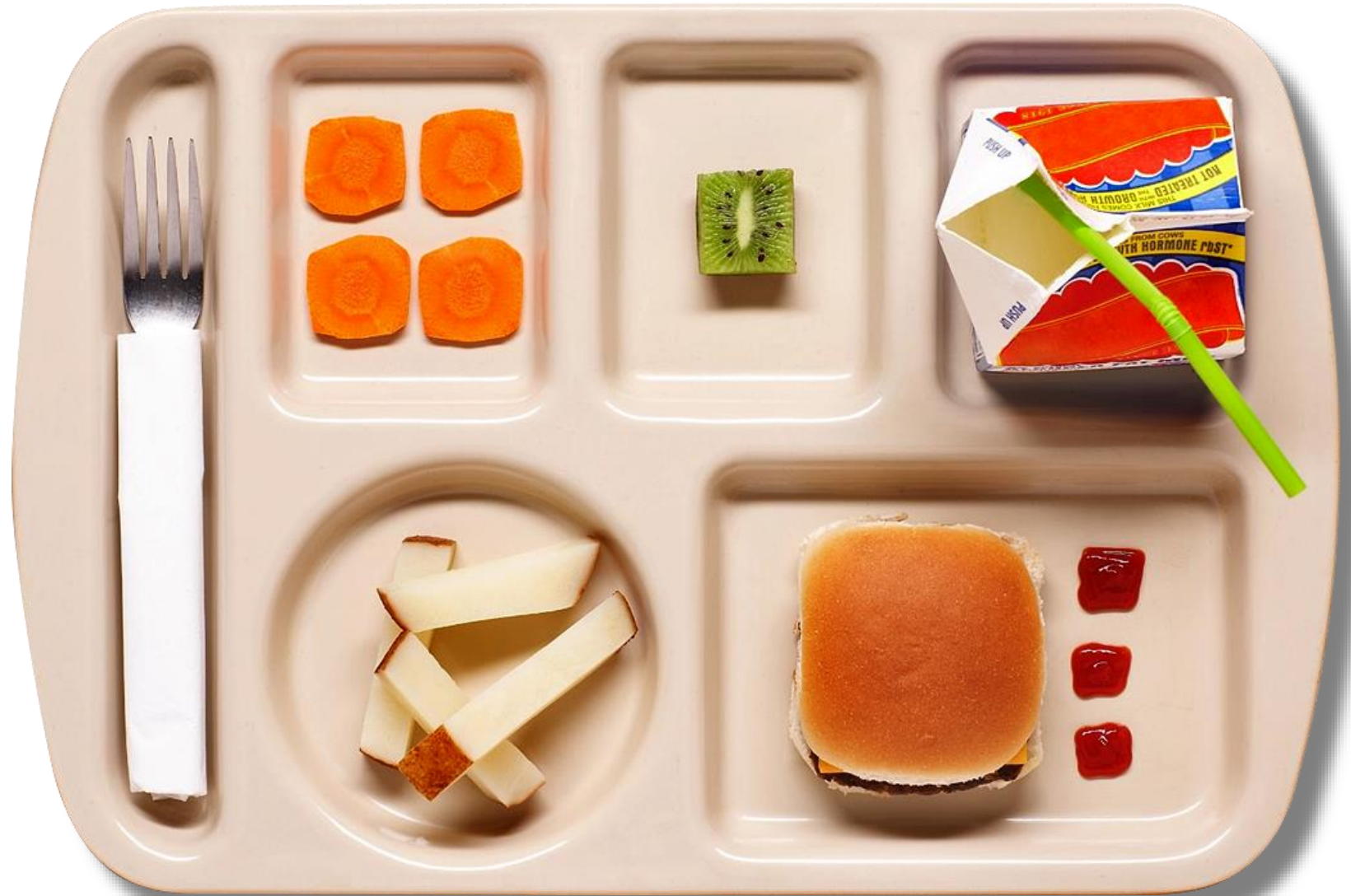
**LESSON PLAN  
GRADES 5-12**

**THE WWF FOOD CONSERVATION CHALLENGE**  
Making the connection between food waste, our planet, and the wildlife we love



# Action:

Measure  
wasted food  
at your  
school





## Activity

# Grown from Garbage

### Time required:

- 5 minutes to brainstorm and introduce the activity.
- 10 minutes to share the instructions and distribute the scraps and other materials.
- 5-10 minutes to brainstorm and identify the resources that plants need to grow and why.
- 5-10 minutes every other day during the growing period to complete printable.



Name: \_\_\_\_\_ Title: \_\_\_\_\_

Remember to take your garbage to school! You'll need a lot of scraps to grow your plants!

How many days did you grow your plants? \_\_\_\_\_

How many plants did you grow? \_\_\_\_\_

How many plants did you eat? \_\_\_\_\_

How many plants did you give away? \_\_\_\_\_

Day 1	Day 2	Day 3	Day 4	Day 5

Draw your plants here!

How many plants did you grow? \_\_\_\_\_

How many plants did you eat? \_\_\_\_\_

How many plants did you give away? \_\_\_\_\_

1. Brainstorm together what can be done with kitchen scraps instead of throwing them in the trash. Some ideas: composting, making smoothies with overripe fruit or banana bread with brown bananas.
2. Introduce the idea that we can actually grow more food from kitchen scraps.
3. Students can grow green onions or romaine lettuce. You can choose one of these or divide the class in half and try both. We chose them because they are easy to grow and grow quickly!

Use the following instructions (see next page) to help students grow food from scraps. →

## Simplify

To simplify this activity, make things more concrete by showing your students the video, [Carrot Regrowing for Kids](#). If time permits, regrow carrots as a class over the next week.

## Amplify

To amplify, invite students to learn about how to grow food from other kinds of scraps. Options include carrot tops, garlic cloves, bottoms of onions, bundles of basil, and butts of celery. They can present their findings to the class by bringing in their sprouted scraps or sharing photographs or drawings.

## Online Learning

Have students grow food from scraps at home or just demonstrate this yourself, showing them the plant(s) whenever you meet as a class. You can measure them, while students record the height and draw what they see.



# FOOD WASTE WARRIORS



# Food Waste Hurts Our World

## STUDENTS WILL LEARN ...

- what food waste is.
- how food waste negatively impacts our environment.
- two strategies for reducing food waste at school and at home.

Thank you  
From Millie  
School Green Valley Elementary  
TAST

Thank you  
From Alan  
School Green Valley Elementary

Thank you  
From [unclear]  
School Green Valley Elementary

From Christi  
School [unclear]

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.



Thank you  
From Nyla  
School Green Valley Elementary

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.



Thank you  
From Jaxiah  
School Green Valley

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.



Thank you  
From Erin  
School Green Valley Elementary

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.



Put your trash in the right trash can so you don't pollute the earth.

Thank you  
From Michaela  
School Green Valley Elementary

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.



Thank you  
From Myra  
School Green Valley Elementary

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.

to pick up trash



Thank you  
From Elle  
School Green Valley Elementary

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.

If you compost you can help the earth, just as we help our land and water. It's all about taking care of the earth.



Thank you  
From Sam  
School Green Valley Elementary School  
(YES)

Dear Representative  
Please support HB150 and SB124, a grant to reduce food waste by adding a composting program in schools.



Thank you  
From Giebesis  
School Green Valley Elementary

# Postcards in Support of HB150 in Maryland





# Going Green: a school district pursues environmental sustainability

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Environmental & Energy Study Institute  
Congressional Briefing  
September 28, 2022

Joanna Pi-Sunyer, Analyst – Sustainability

**BALTIMORE CITY**  
**PUBLIC SCHOOLS**

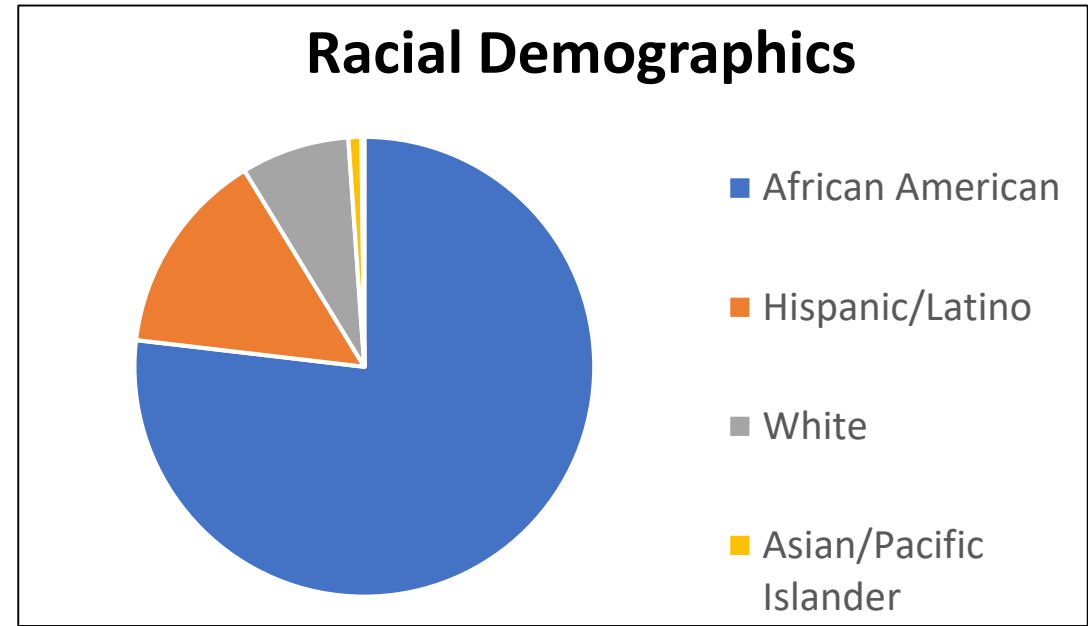
# A little bit about us

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- 164 schools and programs in 155 buildings
- 17+ million square feet
- 77,800 students
- 61% low income; 100% free lunch
- 11% English Language Learner
- 14% students with disabilities

**Sustainability Policy  
first adopted in 2016**

**BALTIMORE CITY  
PUBLIC SCHOOLS**



# Three of our sustainability efforts

---

1. Sustainability policy & plan: building networks
2. School buildings: construction & operations
3. Environmental experiences:  
embedded in the curriculum &  
spending time outdoors

# **1. Our Sustainability Policy & Plan**

---

# Sustainability Plan

---



**Develop  
environmentally  
literate students**



**Create  
healthy  
school  
environments**



**Reduce and  
conserve  
natural  
resources**



**Improve  
school green  
spaces**



**Engage school  
communities**

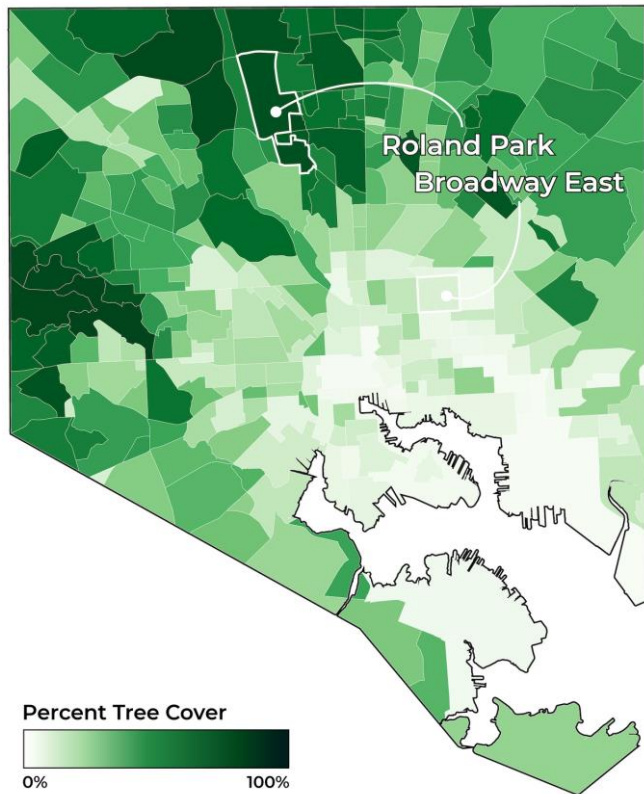


**Build  
student  
leadership**

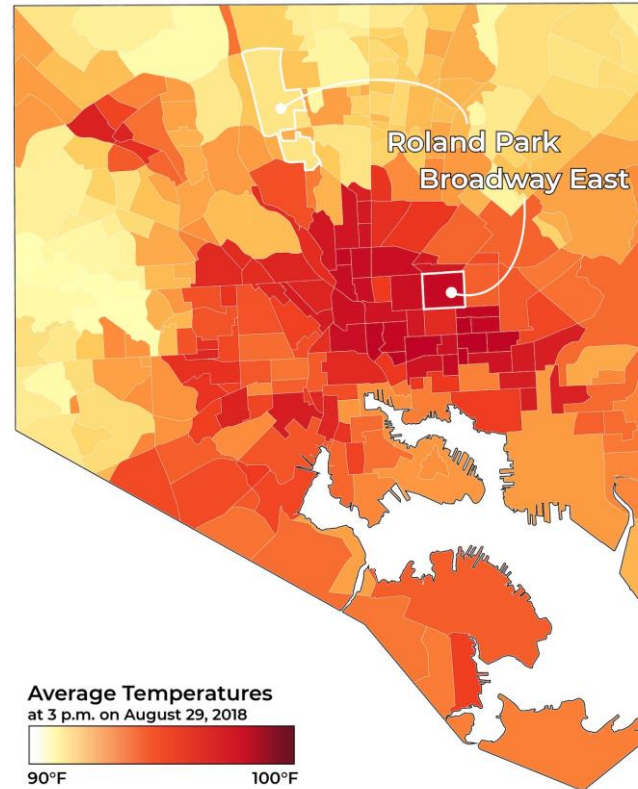


# The historical, generational & compounding reality of racism

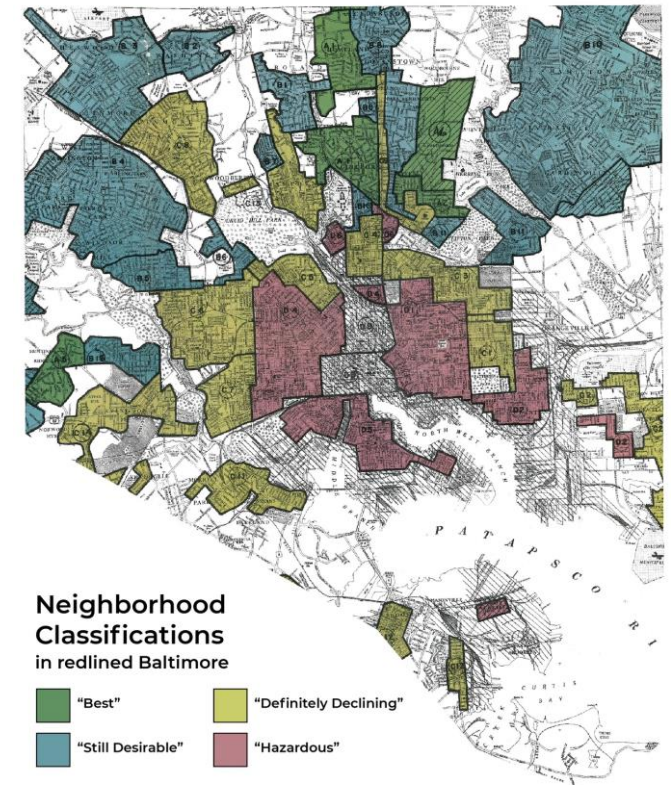
Communities that were redlined (the practice of denying home mortgages to certain areas based on race) in the 1930s have lower tree canopies today. *The Role of Trees – Poor neighborhoods in Baltimore have far less tree canopy than wealthier neighborhoods.* Capital News Service/Howard Center for Investigative Journalism, 9/3/2019. [link.](#)



The more trees (dark green)....



The cooler the temperatures on hot summer days (light orange)



Current level of tree canopy roughly matches 1930s redlining maps

# Negative environmental burdens disproportionately impact people of color and people with lower incomes

---

## People of color face disproportionate harm from climate change, EPA says

- USA Today. [Link](#)

Areas with weak health infrastructure – mostly in developing countries – will be the least able to cope [with climate change] without assistance to prepare and respond.

– *World Health Organization*. [Link](#)

The elderly, poor, mentally ill, mobility-constrained, and those with limited experience of flooding were consistently identified as among the most susceptible to flooding effects in Baltimore.

- *Framing the Challenge of Urban Flooding*. [Link](#)

## Race Best Predicts Whether You Live Near Pollution

- The Nation. [Link](#)

America is segregated and so is pollution. Race and class still matter and map closely with pollution, unequal protection, and vulnerability.... Reducing environmental, health, economic and racial disparities is a major priority of the Environmental Justice Movement.

– *Dr. Robert Bullard*

*Considered the “father” of the environmental justice movement”* [Link](#).

# Building a network



Communication with school leaders, teachers, staff and partners

[Monthly newsletter](#)

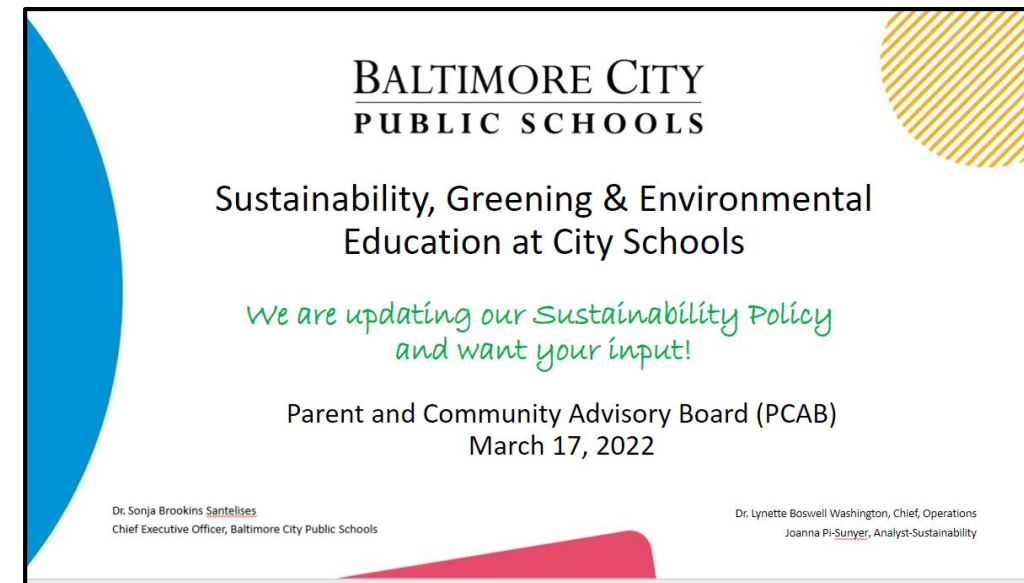
Supporting teachers to lead in their schools

[Green Leader Achievement Units](#)

[Green Healthy Smart Challenge](#)



Presentations, conversations & surveys with stakeholders



## **2. School Buildings**

# Net Zero Energy (NZE) Schools

Two NZE schools serving grades K-8 opened in 2020



We  
succeeded  
because:

- Fertile foundation
- Serendipity
- Funding
- The will to succeed
- Consistent education and tweaking

[The Path to Your Net Zero Energy School  
info sheets](#)

# 21<sup>st</sup> Century Schools



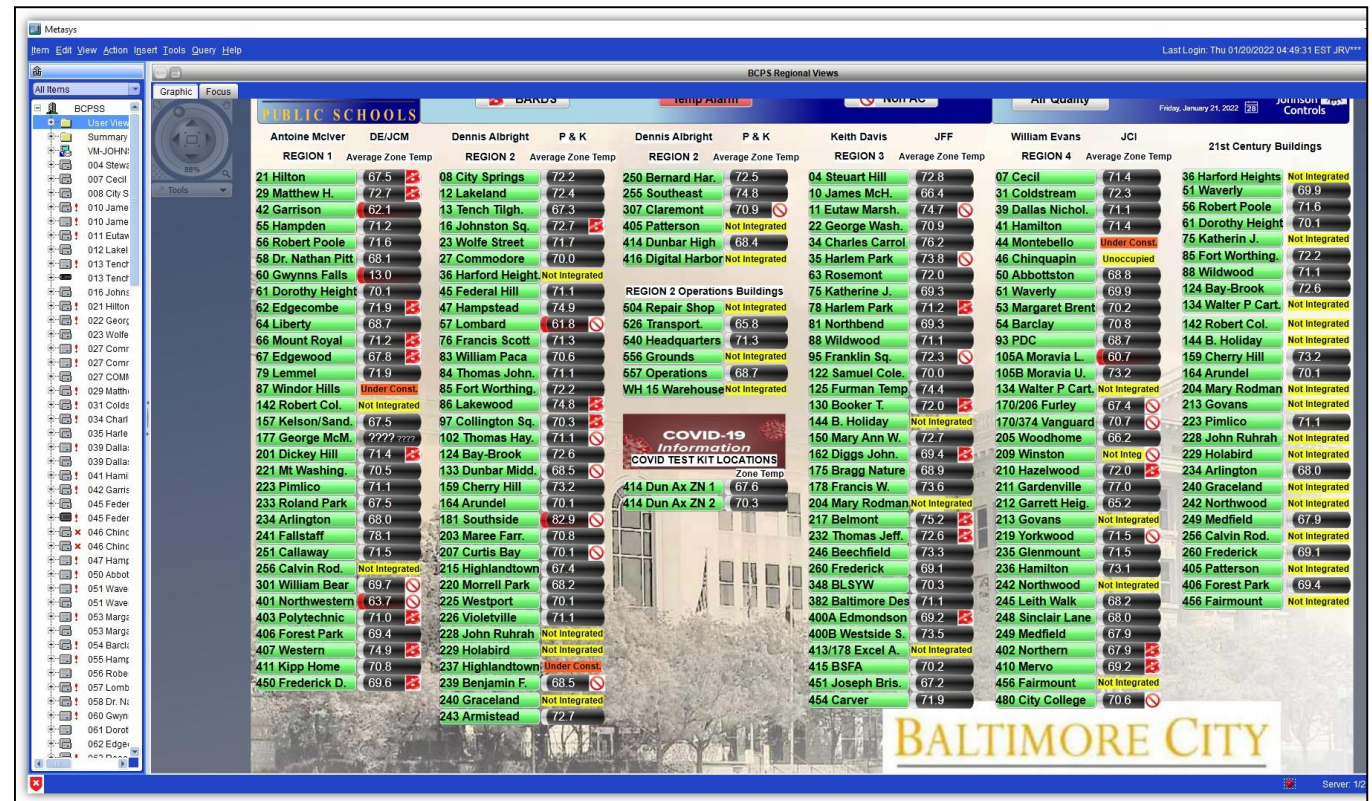
## Green Features (selected)

- LEED Silver, Gold & Platinum
- Lower Energy Use Intensity (EUI)
- Good acoustics, light and air
- Light-colored roofs
- Potable water fountains
- Storm water management



# Across the District

- Increasing number of Building Automation Systems to control temperatures
- Monitoring utility consumption and costs
- Behavior modification
- Recycling
- Less-toxic cleaning supplies



# **3. Environmental experiences**

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# Environmental literacy – curriculum-embedded experiences



## Grade: 5

Unit: Save the Bay

Partners: Towson Center for  
STEM Excellence / Waterfront  
Partnership experience

[https://www.youtube.com/watch?v=cBo7IhT\\_sxU](https://www.youtube.com/watch?v=cBo7IhT_sxU)



## Grade: 6

Unit: Where have all the creatures gone?

Partner: National Aquarium in Baltimore

<https://youtu.be/17ZPrCTCbOA>



## Grade: 9

Unit: The Baltimore Watersheds

Partners: Living Classrooms, Baltimore Recreation & Parks,  
MD Dept of the Environment, Chesapeake Bay Foundation,  
Chesapeake Bay Trust

[Biology Classes Investigate the Chesapeake Bay Watershed](#)

# Outdoor experiences




**Take it Outside!**  
**Outdoor Learning at City Schools**

Bringing students outside can complement classroom learning. Benefits for both students and adults include alleviating stress and anxiety, promoting social-emotional learning, and providing time for creative exploration. Outdoor spaces can support all content areas, including ELA, math, and science. Plus, being outside reduces the chance of transmitting the novel coronavirus. So, consider your school's outdoor space as valuable educational space - and a place to eat lunch! Kids benefit from even short amounts of time outside where they can stretch their legs, move around, and have a different experience.

**Outdoor learning supports the Blueprint for Success and the Equity Policy**

Many of our students have long faced barriers that restrict their freedom of movement in outdoor spaces, including barriers rooted in systemic racial inequities; infrastructure (absence of sidewalks and parks); concerns about safety; environmental toxins; and hyper-surveillance when in public spaces. **The time is now to disrupt and dismantle all inequities wherever and whenever City Schools has the power to do so.** We can intentionally provide students with safe, engaging, and joyful time outside, something even more restricted during the pandemic. Expanded outdoor movement and exploration support students' academic, physical, and mental well-being. Time outdoors also benefits staff, helping to fortify the foundation they provide to our students.



<p>Neighborhoods lacking access to recreational facilities</p> <ul style="list-style-type: none"> <li>81% of HISPANIC neighborhoods</li> <li>70% of AFRICAN AMERICAN neighborhoods</li> <li>38% of WHITE neighborhoods</li> </ul>	<p>Children living below the poverty line are more likely to be deprived of recess</p> <p>159%</p>
<p><b>BALTIMORE CITY PUBLIC SCHOOLS</b></p>	<p>Adults are physically active at different rates. In</p> <ul style="list-style-type: none"> <li>5 states, more than 30% of WHITES are inactive</li> <li>22 states, more than 30% of HISPANICS are inactive</li> <li>23 states, more than 30% of AFRICAN AMERICANS are inactive</li> </ul>

Source: Active Living Research.org



[bit.ly/BCPSSOutdoorLearning](http://bit.ly/BCPSSOutdoorLearning)

[Farm to School programs](#)



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[Sustainability Resources](#)





# What did you think of the briefing?

**Please take 2 minutes to let us know at:**  
[www.eesi.org/survey](http://www.eesi.org/survey)

***Materials will be available at:***  
[www.eesi.org/092822school](http://www.eesi.org/092822school)

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Wednesday, September 28, 2022