

# GAZETTE

DRIVING THE WAY TOWARD  
ENERGY INDEPENDENCE

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*Participants in a lunch-and-learn session at CCAC tour the CowFartBus school bus platform.*

## **CLEAN FUELED SCHOOL BUS DEMONSTRATION MAKES THE MARK**

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On Tuesday, February 21, a small group gathered with Pittsburgh Region Clean Cities (PRCC), Ingevity, American CNG, Columbia Gas, Peoples Gas and National Fuel at the Community College of Allegheny County (CCAC) West Hills Center to learn more about



the new DEMI NeuFuel School Bus Platform. Better known as the CowFartBus, this unique solution converts existing diesel school buses to run on a blend of renewable natural gas (RNG) and diesel using a DEMI diesel displacer.

The system makes cheaper, cleaner fuel more easily accessible to school districts that need to utilize their existing school bus fleet. In just one day, the DEMI diesel displacer can be installed on an existing bus and it will be ready to run on NeuFuel RNG.

RNG is produced from various feedstocks such as food waste, landfill garbage, wastewater sludge, and – as demonstrated on the CowFartBus – dairy farm waste. The organic waste is moved from the farm to a digester which captures the biogas. The biogas is purified into RNG and then moved through a pipeline. At the school bus yard, the fueling appliance dispenses the NeuFuel RNG blend, which immediately displaces 30-50% of the diesel typically used by the bus. Enough RNG will be stored on the bus to fuel a typical daily route. And as the RNG fuel is depleted, the bus automatically

switches back to a diesel-only fuel, to minimize range anxiety.

Ingevity's NeuFuel RNG solution affords school districts a viable solution for achieving fuel savings while moving to a more environmentally friendly solution. Exhaust from diesel school buses are linked to health conditions such as asthma and bronchitis. As a renewable resource, RNG is cleaner and safer. Each gallon of RNG displacing a gallon of diesel in school buses reduces greenhouse gas (GHG) and Nitrogen Oxide (NOx) emissions by over 80%. Fuel savings on RNG can be as much as \$3 per gallon over the cost of diesel.

Participants at CCAC enjoyed a detailed introduction to the technology platform lead by the Ingevity NeuFuel team, took a tour of the CowFartBus, and enjoyed a lively discussion about the benefits of RNG solutions over lunch.

For a limited time, school districts can apply to receive one of 1,000 free DEMI displacer solutions to convert their existing buses. Visit [www.cowfartbus.com](http://www.cowfartbus.com) to complete the application form and learn more.

# "SEEN" AT RECENT PRCC EVENTS:



**FIRST RESPONDER TRAININGS**

**EV WORKSHOPS & EATON TOUR**



**PGH AUTO SHOW**



# U.S. DEPARTMENT OF ENERGY LAUNCHES NEW \$50 MILLION PROGRAM TO HELP COMMUNITIES MEET THEIR CLEAN ENERGY GOALS

***'Clean Energy to Communities' Program Will Connect Local Leaders with DOE's National Laboratories to Help Communities Transition to a Clean Energy Future***

WASHINGTON, D.C. — The U.S. Department of Energy (DOE) launched a new up to \$50 million program to help communities across the country transition to clean energy systems that are reliable, affordable, equitable, and reflective of local priorities. The Clean Energy to Communities program (C2C) will connect local governments, electric utilities, community-based groups, and others with the innovative modeling and testing tools developed at DOE's world-class national laboratories to transform their clean energy goals and ambitions into reality. By helping communities reach their clean energy targets, this new program reflects President Biden's continued commitment to ensuring that every community unlocks the public health and cost-saving benefits of a clean energy future and support President Biden's goals to decarbonize the electric grid by 2035 and achieve a net-zero emissions economy by 2050.

"With C2C, we're helping all kinds of communities — from small rural communities to sprawling urban areas — access the tools and scientific and technological expertise they need to bring their energy systems into the 21st Century" said U.S. Secretary of Energy

Jennifer M. Granholm. "This exciting program will help communities make informed decisions about their own energy needs and ensure reliable and affordable clean energy is available to Americans everywhere."

C2C provides integrated technical support to communities across renewable power, grid, mobility, and buildings sectors. The program seeks to provide the type and amount of support communities require to meet their unique interests and needs in transitioning to a clean energy economy. For C2C's in-depth partnerships, this includes funding to support program participation.

C2C offers three levels of technical assistance:

- **In-depth technical partnerships:** Multi-year partnerships that provide cross-sector modeling, analysis, and validation, paired with direct funding to help four to five selected teams of local governments, electric utilities, and community-based organizations reach their goals and/or overcome specific challenges.
- **Peer-learning cohorts:** Small groups of local governments, electric utilities, or community-based organizations

that meet regularly for approximately six months to learn from each other and lab experts in a collaborative environment to develop program proposals, action plans, strategies, and/or best practices on a pre-determined clean energy topic. Cohorts will include approximately 100 communities in total.

- **Expert match:** Short-term assistance (40-60 hours) with one or more technical experts to help address near-term clean energy questions or challenges for up to 200 communities.

C2C is led and managed by the National Renewable Energy Laboratory (NREL), with additional support from Pacific Northwest National Laboratory, Argonne National Laboratory, Lawrence Berkeley National Laboratory, and Oak Ridge National Laboratory. It leverages expertise and capabilities from across these labs, including NREL's Advanced Research on Integrated Energy Systems platform, on which local leaders can see how a virtual model of their community

interacts with actual and emulated clean energy infrastructure and devices, such as wind turbines, controllers, and electric charging stations—helping to de-risk future investments. C2C is funded by DOE's Office of Energy Efficiency and Renewable Energy (EERE).

C2C builds upon NREL's [Los Angeles 100% Renewable Energy Study](#), which evaluated a wide range of scenarios to help stakeholders understand possible pathways to the city's goal of 100% renewable energy by 2045, and the implications of these pathways for people who live and work in the city. The study found that meeting Los Angeles' goal of reliable, 100% renewable electricity by 2045 is achievable and will provide significant health and climate benefits.

Learn more about [EERE](#), [NREL](#), and [C2C](#), including how to apply for technical assistance.

## EPA CLEAN SCHOOL BUS PROGRAM ASSISTANCE:

The EPA's Clean School Bus Program provides \$5 billion over 5 years (fiscal years 2022–2026) to replace existing school buses with clean and zero-emission models. The Joint Office of Energy and Transportation and NREL provide free technical assistance to school districts currently receiving or

planning to apply for EPA funds to plan for and deploy clean school buses. For those receiving funds in the current round, purchase orders demonstrating that new buses and eligible infrastructure have been ordered are due at the end of April. Email Abby Brown, [CleanSchoolBusTA@nrel.gov](mailto:CleanSchoolBusTA@nrel.gov).

**QUESTION OF THE MONTH:  
*WHAT IS THE ESTIMATED WARRANTY PERIOD AND LIFETIME OF ELECTRIC SCHOOL BUS BATTERIES?***



It's our understanding that most electric school bus manufacturers offer battery warranties of five or eight years, up to a certain mileage threshold. Additionally, some manufacturers offer extended warranties for their batteries. That said, it is recommended that the school or district contact the manufacturer directly to verify. Actual battery lifespans will vary depending on several factors, such as battery control strategies, driving and charging patterns, local climate, the vehicle-battery-environment thermal system, and battery chemistry. Note that real-world data on electric school bus battery lifetimes is limited as the electric school bus industry is still new and evolving.

We recommend reviewing the [\*World Resources Institute's \(WRI\) Electric School Bus U.S. Market Study and Buyers Guide\*](#) which includes battery warranty information by manufacturer and vehicle size.

Based on the information compiled by WRI, the most common warranty periods are five and eight years. In addition, some manufacturers have mileage and battery discharge thresholds for the warranties. As such, if a school district is getting a lot of mileage out of their school bus, it's possible that they would hit one of the mileage thresholds first.

It may be worth noting that the WRI report provides a case study on a school district that dealt with battery replacements (page 8), and recommends working with the manufacturers for addressing battery warranty issues.

In addition to the time and mileage-based parameters, manufacturers may also consider the battery state of health in their battery warranty policies. As noted above, we recommend that the school or district reach out to the electric school bus manufacturer directly to verify their

battery warranty.

Lastly, for more information on electric school buses, visit the [Alternative Fuels Data Center's Electric School Bus Education page](#). Here you can access the Flipping the Switch on Electric School Buses series, which offers educational webinars and handouts about the benefits of electric school buses and examples of use.

*"Twin Rivers Unified School District began operating its first electric school buses in 2017. Currently, the school district operates the largest electric school bus fleet in the nation with 50 electric Type A, C, and D buses from a variety of manufacturers (Lion, Trans Tech, Blue Bird, and Collins with orders placed for Micro Bird and Thomas Built Buses). All are newly manufactured models; none are repowered models."*

## UPCOMING EVENTS:

### BOARD OF DIRECTORS MEETING SCHEDULE FOR 2023:

The PRCC Board of Directors meeting schedule is as follows:

March 1, 2023 - CCAC  
May 3, 2023 - UPITT  
July 5, 2023 - DLC  
September 6, 2023  
November 1, 2023

10:00 a.m. - 11:30 a.m.

### OTHER UPCOMING EVENTS:

**Drive Electric Earth Day (DEED)**  
April 22, 2023

**Drive Electric PA Coalition Meeting**  
April 2023  
10:00 a.m. - 12:00 p.m.



## TRAINING COURSES:

The PRCC is working with the National Alternative Fuels Training Consortium and the Community College of Allegheny County - West Hills Center to conduct training classes.

***These classes are free to Sustaining Members and the public.***

### **CNG Tank Inspector Prep for Certification**

ATE-601-WH85

TBD

To register for these classes, contact **Bob Koch at 412-788-7378 or [rkoch@ccac.edu](mailto:rkoch@ccac.edu).**

# **RENEWABLE NATURAL GAS: SOLUTION TO CLIMATE CHANGE. THERE ARE NO DOWNSIDES.**

*from Shale Directories' Facts & Rumors  
Newsletter - January 2023*

Imagine if burning natural gas actually reduced carbon emissions and can be transported via the nations existing natural gas pipelines to factories, commercial buildings, power generators, and our homes. So what is the downside?

As organic matter decomposes, it gives off primarily natural gas – methane and carbon dioxide. Large sources of decomposing matter include landfills, livestock (cattle, dairy, pig and chicken) farms, wastewater treatment plants and variety of farming and forestry sectors.

The methane generated by decomposition is traditionally allowed to leak into the atmosphere. Methane is a potent greenhouse gas with warming potential 25–34 times greater than carbon dioxide, according to University of Utah data. Avoidance of methane emissions gives RNG a negative carbon intensity. A fuel with no downsides.

There are no downsides, Renewable Natural Gas (RNG) also named biogas

and sustainable natural gas is undergoing rapid growth. An Industry Research report, released earlier this year forecasts RNG growth at a CAGR of 44%. Major oil and gas companies such as BP are jumping in; BP recently acquired landfill RNG leader Archaea Energy.

Yet the scope of opportunity is staggering; making room for many local players. The EPA reports the U.S. has 3,000 active landfills, while US Farm Data states the country has more than 60,000 dairy farms. There is plenty of opportunity for “mining” these sources of natural gas.

RNG also provides benefits in terms of fuel security, improved local air quality and brings communities into the climate change fight all with local economic benefits – jobs. A typical RNG project, according to industry sources, can cost between \$10 and \$100 million, generating both construction and operating jobs in local communities.

According to the Coalition for Renewable Natural Gas (CRNG), there are more than 500 RNG facilities in North America operating, under construction or planned, located in 46 states and three Canadian provinces.

## **DECADE-OLD PROPANE SCHOOL BUS CLOCKS IN 250,000 MILES FOR MINNESOTA SCHOOL DISTRICT**

Crosby-Ironton Transportation is the sole transportation contractor for two school districts in rural Minnesota: Crosslake Community Schools and Crosby-Ironton School District. The region, which has a population of 10,600, is known for its beauty and outdoor adventures, including crystal clear lakes, hiking and biking. As the company explored ways to manage daily operations in extreme weather, keep its budget in check and protect the surrounding landscape, propane autogas emerged as the most fitting fuel.

“Our community and students have benefited greatly from our propane buses because they have no cold-start issues, so we can be confident that kids can continue attending school even when the weather turns to negative 40 degrees,” said Josh Schiffler, owner of Crosby-Ironton Transportation.

In 2013, Schiffler purchased a 2011 Micro Bird Type A bus — the third Micro Bird propane bus ever built. Ten years later, that same bus is operating daily with more than 248,000 miles on it. Since then, Schiffler has added 11 Type C Blue Bird Vision propane buses to the fleet.



Crosby-Ironton Transportation’s buses are used extensively, including for daily routes, special needs and extracurricular activities. In fact, Schiffler says he uses all of the company’s propane school buses for long distance travel, including field trips across the state and even up to Canada.

With all that travel, Schiffler is grateful for the dramatic fuel savings on his propane buses. Crosby-Ironton Transportation pays \$1.67 per gallon for propane and over \$5 for diesel, resulting in a 67% savings for its propane-powered buses.

Between the overall savings on fuel and maintenance costs, the reliability of the engine and the health benefits, Schiffler says about adopting propane school bus technology: “It’s common sense. It just works.”

Schiffler also serves as Crosby-Ironton Transportation’s only technician; he performs all of the preventative maintenance on each vehicle. The propane buses, which Schiffler calls “virtually maintenance free,” are equipped with ROUSH CleanTech propane autogas technology.

To highlight how economical and easy-to-maintain the propane school buses

have been, Schiffler listed on one hand the work that's been needed over the course of the Micro Bird's lifetime to date. In 10 years, the quarter-million-mile propane bus still has the original transmission and has only required one fuel pump, one radiator, a headlight replacement, spark plugs and tank recoating.

Schiffler noted that the propane buses have no cold start issues and can reliably get students to and from school. The buses don't require extra steps or costly equipment to keep the fuel operating when temperatures drop below freezing — which is helpful from a budgeting and staffing perspective. Diesel buses, on the other hand, have several additional requirements to operate in cold weather, including being plugged in overnight, installing a block heater in the coolant system, and needing fuel additives. The risk of a complete operational shut down is much higher with diesel buses.

Between the superior long-term serviceability and substantial fuel and maintenance savings, Schiffler is certain that propane autogas makes the most sense. "We'll continue to purchase propane school buses going forward," he said.

For more information about why propane autogas makes the most sense for U.S. schools, visit [ROUSHcleantech.com](http://ROUSHcleantech.com), or reach out to us to start a conversation.

Here's to creating a greener future for our children.

*Todd Mouw is executive vice president of sales and marketing of ROUSH CleanTech, an industry leader of advanced clean vehicle technology. Mouw has more than two decades of experience in the automotive and high-tech industries. As former president of the NTEA Green Truck Association, Mouw helped set standards in the green trucking industry. To learn more, visit [ROUSHcleantech.com](http://ROUSHcleantech.com).*



# Flipping the Switch on Electric School Buses

Dive into a technical assistance video series for K-12 school bus fleets interested in electric school buses. Learn from the experts about the benefits of electric school buses and examples of their use. Watch video modules and download educational handouts on any and all of these topics:

-  Electric School Bus Introduction
-  Working With Electric Utilities
-  Vehicle Requirements
-  Charging Infrastructure
-  Infrastructure Planning and Solutions
-  Vehicle In Use Performance
-  Driver and Technician Training
-  Cost Factors



Find the series on the **Alternative Fuels Data Center**



 [afdc.energy.gov/electric-school-buses](https://afdc.energy.gov/electric-school-buses)



## FUNDING OPPORTUNITIES:

*ON JANUARY 27, 2023, THE FEDERAL TRANSIT ADMINISTRATION (FTA) ANNOUNCED THE AVAILABILITY OF NEARLY \$1.7 BILLION IN FISCAL YEAR 2023 FUNDING TO SUPPORT STATE AND LOCAL EFFORTS TO BUY OR MODERNIZE BUSES, IMPROVE BUS FACILITIES, AND SUPPORT WORKFORCE DEVELOPMENT.*

### **Low or No Emission Vehicle Program - 5339(c)**

For Fiscal Year 2023, \$1.2 billion in funding is available under the Low or No Emission Program.

The Low or No Emission competitive program provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses as well as acquisition, construction, and leasing of required supporting facilities.

Eligible applicants include direct or designated recipients of FTA grants; States; local governmental authorities; and Indian Tribes.

Eligible projects include:

- purchasing or leasing low- or no-emission buses

- acquiring low- or no-emission buses with a leased power source
- constructing or leasing facilities and related equipment (including intelligent technology and software) for low- or no-emission buses
- constructing new public transportation facilities to accommodate low- or no-emission buses
- rehabilitating or improving existing public transportation facilities to accommodate low- or no-emission buses

Additionally 0.5% of a request may be for workforce development training and an additional 0.5% may be for training at the National Transit Institute (NTI). Applicants proposing any project related to zero-emission vehicles must also spend 5% of their award on workforce development and training as

outlined in their Zero-Emission Transition Plan, unless the applicant certifies that their financial need is less. Learn more at:

<https://www.transit.dot.gov/lowno>

### **Grants for Buses and Bus Facilities Program**

For Fiscal Year 2023, \$469.4 million in funding is available under the Grants for Buses and Bus Facilities Program.

The Grants for Buses and Bus Facilities Competitive Program (49 U.S.C. 5339(b)) makes federal resources available to states and direct recipients to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities. Funding is provided through formula allocations and competitive grants.

Eligible applicants for the Buses and Bus Facilities Program include designated recipients that allocate funds to fixed-route bus operators, States (including territories and Washington D.C.) or local governmental entities that operate fixed route bus service, and Indian tribes.

Eligible subrecipients include all otherwise eligible applicants and also private nonprofit organizations engaged in public transportation.

Capital projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities. Additionally, 0.5% of a request may be for workforce development training, and an additional 0.5% may be for training at the National Transit Institute. Applicants proposing any project related to zero-emission vehicles must also spend 5% of their award on workforce development and training as outlined in their Zero-Emission Transition Plan, unless the applicant certifies that their financial need is. Learn more at:

[:https://www.transit.dot.gov/bus-program](https://www.transit.dot.gov/bus-program)

FTA will host a webinar to provide information to potential applicants on February 28, 2023 from 2:00 – 3:30 pm EST. FTA is committed to providing equal access to this session for all participants.



# WorkTruck Week<sup>®</sup>2023

**March 7-10, 2023  
Indianapolis, IN**

For the people who design, build, use and maintain the work trucks and equipment the world relies on, Work Truck Week showcases the industry's latest products and technology. Join to learn from one another and discuss how to improve the future.

[Learn More](#)



**March 29-31, 2023  
Las Vegas, NV**

A must-attend event for all things EV charging, this three day summit features 9 tracks and over 100 speakers. The Summit provides educational sessions focused on financing, infrastructure, operability and ROI for EV charging.

[Learn More](#)



**April 19, 2023  
Southpointe, Canonsburg, PA**

The first Appalachian RNG Conference will provide tremendous information from industry experts that are leading the growth of this burgeoning industry. The event will focus on creating regional awareness of local opportunities to profitably address climate change.

[Learn More](#)



**May 1-4, 2023  
Anaheim, CA**

Discover the trends, infrastructure solutions, and technologies transforming clean commercial transportation at The Advanced Clean Transportation Expo. This four-day event attracts today's most advanced fleet vehicles, fuels, and technologies.

[Learn More](#)

# SUSTAINING MEMBERS

## PLATINUM LEVEL MEMBERS:



## GOLD LEVEL MEMBERS:



## SILVER LEVEL MEMBERS:





## THANK YOU FOR YOUR SUPPORT!

The Pittsburgh Region Clean Cities Board of Directors would like to thank all our members and stakeholders for supporting our coalition and mission.

### PRCC Membership Levels:

- Individual -- \$150
- Nonprofit -- \$300
- Bronze -- \$500
- Silver -- \$1000
- Gold -- \$2000
- Platinum -- \$4000+

Learn more about membership at:  
[www.pgh-cleancities.org/membership/](http://www.pgh-cleancities.org/membership/)



## CONTRIBUTE YOUR NEWS:

Help us share success stories about the projects in our region!

Please feel free to contact:

**Rick Price,**

Executive Director/Coordinator

412-735-4114

[coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org)

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## LEARN MORE:

Learn more about Clean Cities at:

[www.cleancities.energy.gov](http://www.cleancities.energy.gov)

Or get involved with the Pittsburgh Region Clean Cities coalition at:

[www.pgh-cleancities.org](http://www.pgh-cleancities.org)



UNITED WE STAND:  
REMEMBERING SEPTEMBER 11, 2001