CONSENT CALENDAR

April 12, 2022

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

The Committee on Transportation to which was referred SB 417-FN,

AN ACT establishing an electric school bus pilot program. Having considered the same, report the same with the following amendment, and the recommendation that the bill OUGHT TO PASS WITH AMENDMENT.

Rep. Steven Smith

FOR THE COMMITTEE

Original: House Clerk
Cc: Committee Bill File

COMMITTEE REPORT

Committee:	**Transportation**
Bill Number:	**SB 417-FN**
Title:	**establishing an electric school bus pilot program.**
Date:	**April 12, 2022**
Consent Calendar:	**CONSENT**
Recommendation:	**OUGHT TO PASS WITH AMENDMENT 2022-1467h**

STATEMENT OF INTENT

This bill creates an electric school bus pilot program utilizing only federal funds and an allocation from the New Hampshire Volkswagen Mitigation trust. Buses are required to be properly equipped for winter. Qualified proposals for the pilot program will be required to report on a variety of metrics including financial costs and benefits. The program will be administered by the Department of Environmental Services and coordinated with the Department of Energy who will monitor several metrics including the ability of excess battery power to aid grid stabilization and impact to electric rates. The committee amendment expands one category of those eligible to submit proposals from only electric distribution utilities to any investor owned utility.

Vote 15-0.

Rep. Steven Smith
FOR THE COMMITTEE

Original: House Clerk
Cc: Committee Bill File

CONSENT CALENDAR

Transportation

SB 417-FN, establishing an electric school bus pilot program. **OUGHT TO PASS WITH AMENDMENT.**

Rep. Steven Smith for Transportation. This bill creates an electric school bus pilot program utilizing only federal funds and an allocation from the New Hampshire Volkswagen Mitigation trust. Buses are required to be properly equipped for winter. Qualified proposals for the pilot program will be required to report on a variety of metrics including financial costs and benefits. The program will be administered by the Department of Environmental Services and coordinated with the Department of Energy who will monitor several metrics including the ability of excess battery power to aid grid stabilization and impact to electric rates. The committee amendment expands one category of those eligible to submit proposals from only electric distribution utilities to any investor owned utility. **Vote 15-0.**

Original: House Clerk
Cc: Committee Bill File

House Transportation
April 14, 2022
2022-1556h
12/05

Amendment to SB 417-FN

Amend RSA 374-I:4 as inserted by section 1 of the bill by replacing it with the following:

374-I:4 Qualified Pilot Programs. A qualifying pilot program shall:

I. Allow proposals to be submitted by any of the following:

(a) Electric distribution utilities;

(b) Electric vehicle charging equipment providers;

(c) Municipalities or school districts that operate school buses;

(d) Entities that have experience in owning and operating electric vehicle charging equipment; or

(e) School bus companies contracted for services by a New Hampshire school district.

II. Commence on or before December 31, 2023.

III. Allow, pending review and approval of the department of energy, plans submitted by the local electric utility to access and utilize the energy stored in the batteries of the electric school buses when utilizing the energy in the stored batteries can lower the cost of supplying power to customers, provided that the participating school district determines that the school buses are not needed to transport students and that the participating entity is fairly compensated for energy recovered from the batteries.

IV. Allow, after the review and approval of the public utilities commission, the cost to a utility for make-ready transmission or distribution to a facility, and any other costs reasonably incurred by the utility in support of this program to be a recoverable cost.

V. Provide training for school personnel in the proper use of the equipment and facilities.

VI. Require each funded bus to comply with the recommendations the National Transportation Safety Board relative to student transportation and provide for adequate interior heat for winter operations.

VII. Require selected applicants provide the department of energy with any information, data, and analysis that the department requires, including data relative to electric rates, and benefits and costs of the pilot program.

HOUSE COMMITTEE ON TRANSPORTATION

EXECUTIVE SESSION on SB 417-FN

BILL TITLE: establishing an electric school bus pilot program.

DATE: April 12, 2022

LOB ROOM: 201-203

MOTIONS: OUGHT TO PASS WITH AMENDMENT

Moved by Rep. Steven Smith	Seconded by Rep. Telerski	AM Vote: Voice Vote
Amendment # 2022-1467s		
Moved by Rep. Steven Smith	Seconded by Rep. Thompson	Vote: 15-0

CONSENT CALENDAR: YES

Statement of Intent: Refer to Committee Report

Respectfully submitted,

Rep Karel Crawford, Clerk

HOUSE COMMITTEE ON TRANSPORTATION

EXECUTIVE SESSION on Bill # 417-FN

BILL TITLE: ... establishing an electric school bus pilot program

DATE: 4/12/22

LOB ROOM: 201-203

MOTION: (Please check one box)

☐ OTP ☐ ITL ☐ Retain (1st year) ☒ Adoption of Amendment # 22-1467s (*if offered*)

☐ Interim Study (2nd year)

Moved by Rep. Smith Seconded by Rep. Telerski Vote: Voice unanimous

MOTION: (Please check one box)

☐ OTP ☒ OTP/A ☐ ITL ☐ Retain (1st year) ☒ Adoption of Amendment # 22-1467s (*if offered*)

☐ Interim Study (2nd year)

Moved by Rep. Smith Seconded by Rep. Thomson Vote: 15-0

MOTION: (Please check one box)

☐ OTP ☐ OTP/A ☐ ITL ☐ Retain (1st year) ☐ Adoption of Amendment # _____ (*if offered*)

☐ Interim Study (2nd year)

Moved by Rep. _____ Seconded by Rep. _____ Vote: _____

MOTION: (Please check one box)

☐ OTP ☐ OTP/A ☐ ITL ☐ Retain (1st year) ☐ Adoption of Amendment # _____ (*if offered*)

☐ Interim Study (2nd year)

Moved by Rep. _____ Seconded by Rep. _____ Vote: _____

CONSENT CALENDAR: ✓ **YES** ____ **NO**

Minority Report? _____ Yes _____ No If yes, author, Rep: _____ Motion _____

Respectfully submitted: Karel Crawford

Rep. Karel Crawford, Clerk

OFFICE OF THE HOUSE CLERK

1/10/2022 9:13:23 AM
Roll Call Committee Registers Report

2022 SESSION

Transportation

Bill #: 417-FN **Motion:** OTP/A **AM #:** 1467s **Exec Session Date:** 4/12/22

Members	YEAS	Nays	NV
Walsh, Thomas C. Chairman	✓		
Gagne, Larry G. Vice Chairman			✓
Smith, Steven D.	✓		
Crawford, Karel A. Clerk	✓		
Hill, Gregory G.	✓		
Thompson, Dennis J.	✓		
Ankarberg, Aidan			✓
Gorski, Ted	✓		
O'Hara, Travis J.	✓		
Pitaro, Matthew			✓
Sykes, George E.	✓		
~~Cleaver, Skip~~ J. Rep. Cloutier	✓		
Fenton, Donovan W.			✓
~~Rombeau, Catherine~~ Rep. Horrigan	✓		
Rich, Cecilia	✓		
Telerski, Laura D.	✓		
Fox, Dru	✓		
Stevens, Deb	✓		
Veilleux, Daniel T.	✓		
TOTAL VOTE:	15	0	

HOUSE COMMITTEE ON

PUBLIC HEARING ON SB 417-FN

BILL TITLE: SB 417-FN establishing an electric school bus pilot program

DATE: 4/12,22

LOB ROOM: 201-203 **Time Public Hearing Called to Order: 9:05 am**

Time Adjourned: 9:41 am

<u>Committee Members</u>: Reps. Walsh, Gagne, Crawford, Smith, Hill, Thompson, Ankarberg, Gorski, O'Hara, Pitaro, Sykes, Cleaver, Fenton, Rombeau, Rich, Telerski, Fox, Stevens and Veilleux

<u>Bill Sponsors</u>: Senator David Waters

TESTIMONY

- Use asterisk if written testimony and/or amendments are submitted.

Introduced: Senator Water

1.2 million for electric school buses from the Volkswagen settlement. Some things have changed, getting more money 17 million for charging stations. We are in good shape for the school bus pilot program. Do this right and set us up to save money for school buses.
Sent email information from DES for committee. Pilot programs in MA and other states. Line 11 in the bill "Incremental Cost" bus might be a couple of thousands more for electric bus than conventional. Electric utilities can come in and use batteries and the charging can be done and then that power can go back into the grid and the school district can get the payment for that. Page 2 can take the Volkswagen funding and the grant will cover the cost for the buses. Children safety and health come into paly with diesel fuel participles coming into the bus, with electric that would not exist. Filed an amendment 2022-1284s for the Electric Cooperative, so they may participate in the program. Line 20 would allow department of energy and local utilize the energy stored in the batteries to be used.
Range for the bus would be 170 miles a day charged.
Reporting cost and benefits for the pilot program.

Q Rep. Telerski – Are there any idea how many buses fit into this program and how many districts? A. maybe 6 programs. Several districts are interested, Hollis, Nashua, Manchester and maybe up north.
Q. Rep, O'Hara – are the cost of the DES in the fun. A yes
Q Rep. Hill – is the school district responsible for the maintenance and who pays for the charging? A. MOU would figure it out cheap powder in and expensive going out and save the power for the community. The maintenance has to provide the training who ever gets the pilot program. Q Rep. Hill – Has any areas gone full cycle had to replace any battlers yet? A. Batteries pack can go 500,000 miles; buses have been running overseas for at least 15 years.

Griffin Roberge – NH Department of Energy – Neutral -
Technical concerns line 22,23 page 2 of the bill. Dept. does not know how they would do that. Page 2- 26-28 the language does not know how to collect this recovery of the cost. Just a few concerns on the bill.

Michael Licata – NH Electric Cooperative – support the bill –
Support the amendment to the bill to include the NHEC. Batteries can be used and go back to the grid to supply service to our customers.

Q. Rep. Hill – Comment on the instructors for the fleet – A. Interconnection study to see if the load can be accommodated. A study would be one to see how this would work. Q. Rep. Hill – safe to say with this pilot program we would need to do that now because we do not have the instructor.
Rep. Walsh we will be execting this bill today.

***Kelly Bochanan – CENH – supports the bill –**
Rep. Thompson – Live in 40 below zero what is the expectation of electrical buses in severe cold.
Rep. Horrigan – What is the range – A. not sure?

Rebecca Ohler – DES – No position –
They are in charge of the Volkswagen trust -We now have mutual bus companies now and good time to b4e explore. What is the maintencence it is far less than conventional bus, no fuel, low on brake use, bus recharges itself while driving.
Not a ware of battiers being replaced. Cost to upgrade the instructor and we are looking at charging infrastructure; some areas are 10,000 to put in charging station and some areas 200,000.

Rep. O'Hara – is the instructor cost north or south, A. does not matter.

Respectfully submitted,

Rep. Karel Crawford, Clerk

SIGN UP SHEET

To Register Opinion If Not Speaking

Bill #: SB417

Date: 4/12/22

Committee: TRANSPORTATION

**** Please Print All Information ****

Name	Address	Phone	Representing	Pro	Con
Bruce Clendenning			The Nature Conservancy	X	

House Remote Testify

Transportation Committee Testify List for Bill SB417 on 2022-04-12

Support: 72 Oppose: 2 Neutral: 0 Total to Testify: 0

Export to Excel

Name	City, State Email Address	Title	Representing	Position	Testifying	Non-Germane	Signed Up
Cavanaugh, Senator Kevin	Manchester, NH kevin.cavanaugh@leg.state.nh.us	An Elected Official	Myself	Support	No	No	4/6/2022 1:29 PM
Carson, Senator Sharon	SD 14, NH sharon.carson@leg.state.nh.us	An Elected Official	Myself	Support	No	No	4/6/2022 3:37 PM
Rosenwald, Cindy	Nashua, NH cindy.rosenwald@leg.state.nh.us	An Elected Official	SD 13	Support	No	No	4/8/2022 1:21 PM
Richards, Martha	Holderness, NH Maplerichards@gmail.com	A Member of the Public	Myself	Support	No	No	4/8/2022 6:57 PM
Rich, Cecilia	Somersworth, NH cecilia.rich@leg.state.nh.us	An Elected Official	Myself	Support	No	No	4/8/2022 8:23 PM
Eisner, Mary	Derry, NH nhdem@msn.com	A Member of the Public	Myself	Support	No	No	4/9/2022 7:37 AM
Field, Bryan	PETERBOROUGH, NH brysciguy@gmail.com	A Member of the Public	Myself	Support	No	No	4/9/2022 8:13 AM
Liebowitz, Susan	Plainfield, NH supawli@hotmail.com	A Member of the Public	Myself	Support	No	No	4/9/2022 9:48 AM
Levesque, Cassandra	Barrington, NH cassandra.levesque@leg.state.nh.us	An Elected Official	Myself	Support	No	No	4/9/2022 11:03 AM
Beffa-Negrini, Patricia	Nelson, NH pbeffa@me.com	A Member of the Public	Myself	Support	No	No	4/9/2022 1:41 PM
Jernstedt, Margaret	Hanover, NH Margaret.Jernstedt@comcast.net	A Member of the Public	Myself	Support	No	No	4/9/2022 2:55 PM
Judd, William	Concord, NH billfjudd@gmail.com	A Member of the Public	Myself	Support	No	No	4/9/2022 6:49 PM
Saum, Judith	Rumney, NH judithsaum@gmail.co,	A Member of the Public	Myself	Support	No	No	4/10/2022 7:20 AM

Glass, Jonathan	Cornish, NH jglass1063@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 11:07 AM
Crandell-Glass, Jane	Cornish, NH bostonjane@me.com	A Member of the Public	Myself	Support	No	No	4/10/2022 11:14 AM
Almy, Susan	Lebanon, NH susan.almy@comcast.net	An Elected Official	Myself	Support	No	No	4/10/2022 12:43 PM
Doherty, David	Pembroke, NH ddoherty0845@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 2:20 PM
Keeler, Margaret	New London, NH peg5keeler@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 2:38 PM
Bushueff, Catherine	Sunapee, NH agawamdesigns@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 3:11 PM
Dontonville, Roger	Enfield, NH rdontonville@gmail.com	An Elected Official	Myself	Support	No	No	4/10/2022 4:16 PM
Fudge, Kim Marie	NORTH CONWAY, NH kimfudge20@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 4:22 PM
West, Christie	Mont Vernon, NH christiemwest@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 4:23 PM
MacGregor, Leslie	Grantham, NH lsmacgregor@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 5:00 PM
Winslow, Dalton	Grantham, NH dwinslow04736@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 5:00 PM
Cahill-Yeaton, Miriam	Epsom, NH nmyeaton.mims@yahoo.com	A Member of the Public	Myself	Support	No	No	4/10/2022 5:26 PM
Keegan, John	Boscawen, NH peoresnada@tds.net	A Member of the Public	Myself	Support	No	No	4/10/2022 6:05 PM
Dontonville, Anne	Enfield, NH Ardontonville@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 6:35 PM
Moore, Ellen	Danville, NH elliemore@comcast.net	A Member of the Public	Myself	Support	No	No	4/10/2022 8:05 PM
Richman, Susan	Durham, NH susan7richman@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 8:40 PM
kwasnik, joseph	concord, NH jkwasnik25@gmail.com	A Member of the Public	Myself	Support	No	No	4/10/2022 8:47 PM
Perencevich, Ruth	Concord, NH rperence@comcast.net	A Member of the Public	Myself	Support	No	No	4/10/2022 9:20 PM

Smith, Julie	Nashua, NH cantdog@comcast.net	A Member of the Public	Myself	Oppose	No	No	4/11/2022 5:23 AM
Ellermann, Maureen	Concord, NH ellermannf@aol.com	A Member of the Public	Myself	Support	No	No	4/11/2022 7:05 AM
Lucas, Janet	Campton, NH janluca1953@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 7:10 AM
Meuse, David	Portsmouth, NH David.Meuse@leg.state.nh.us	An Elected Official	Rockingham 29	Support	No	No	4/11/2022 7:45 AM
Rasmussen, Elissa	Brookline, NH elissa@evanshatz.com	A Member of the Public	Myself	Support	No	No	4/11/2022 8:39 AM
Wilson, Becky	Concord, NH bwilson@Nhsba.org	A Lobbyist	New Hampshire School Boards Association	Support	No	No	4/11/2022 9:02 AM
Jones, Andrew	Pembroke, NH arj11718@yahoo.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:08 AM
Devore, Gary	Pembroke, NH torin_asheron@yahoo.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:08 AM
PARKER, HAYLEY	MONT VERNON, NH hay_parker@yahoo.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:13 AM
Widerstrom, Sally	Plymouth, NH sallyswid@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:31 AM
Hackmann, Kent	Andover, NH hackmann@uidaho.edu	A Member of the Public	Myself	Support	No	No	4/11/2022 10:25 AM
Martin, Patricia A	Rindge, NH pmartin2894@yahoo.com	A Member of the Public	Myself	Support	No	No	4/11/2022 10:59 AM
Corell, Elizabeth	Concord, NH Elizabeth.j.corell@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 11:07 AM
Wightman, Nancy	Cornish, NH Nwlaststraw@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 12:47 PM
Willing, Maura	Concord, NH Maura.Willing@Comcast.net	A Member of the Public	Myself	Support	No	No	4/11/2022 1:49 PM
Kenison, Pamela	Concord, NH pkkenison@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 2:04 PM
Torpey, Jeanne	Concord, NH jtorp51@comcast.net	A Member of the Public	Myself	Support	No	No	4/11/2022 2:26 PM
Thomas, Anne	Rindge, NH annethomasjazz@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 4:15 PM

Hershey, Jane	Rindge, NH janelhershey@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 4:15 PM
Merlone, Lynn	Rindge, NH prulone@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 4:16 PM
Moore, Susan	Franconia, NH susan.moore.franconia@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 4:50 PM
Kelly, Fran	Amherst, NH fr.kelly01@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 4:50 PM
Laker-Phelps, Gail	Chichester, NH lpsart@tds.net	A Member of the Public	Myself	Support	No	No	4/11/2022 7:04 PM
Greenwood-Briggs, Sabrina	Concord, NH Sabrinagb@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 7:27 PM
Holt, David	Somersworth, NH davholt@aol.com	A Member of the Public	Myself	Support	No	No	4/11/2022 7:38 PM
Hunnewell, Richard	Holderness, NH hunnewell.richard@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 7:45 PM
Hunnewell, Anne	Holderness, NH ahunne@roadrunner.com	A Member of the Public	Myself	Support	No	No	4/11/2022 7:45 PM
See, Alvin	Loudon, NH absee@4liberty.net	A Member of the Public	Myself	Oppose	No	No	4/11/2022 9:12 PM
Istel, Claudia	Acworth, NH cistel79@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:30 PM
Brown, Jean	HANOVER, NH jean.e.brown1@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:41 PM
HALLOCK, LINDA	Cornish, NH lindash@mail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 9:51 PM
Hamblet, Joan	PORTSMOUTH, NH joan.hamblet@leg.state.nh.us	A Member of the Public	Myself	Support	No	No	4/11/2022 9:59 PM
Wells, Ken	Andover, NH kenwells3@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 10:15 PM
Wells, Lee	Andover, NH leewells.locustfarm@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 10:25 PM
Brennan, Nancy	Weare, NH burningnan14@gmail.com	A Member of the Public	Myself	Support	No	No	4/11/2022 10:27 PM
Findley, Sally	Grantham, NH findley.se@gmail.com	A Member of the Public	Myself	Support	No	No	4/12/2022 1:12 AM

Reardon, Donna	Concord, NH bugs42953@aol.com	A Member of the Public	Myself	Support	No	No	4/12/2022 7:52 AM
Perkins Kwoka, Senator Rebecca	Portsmouth, NH Rebecca.PerkinsKwoka@leg.state.nh.us	An Elected Official	Myself	Support	No	No	4/12/2022 8:39 AM
Soucy, Donna	manchester, NH donna.soucy@leg.state.nh.us	An Elected Official	SD 18	Support	No	No	4/12/2022 8:46 AM
Garland, Ann	LEBANON, NH annhgarland@gmail.com	A Member of the Public	Myself	Support	No	No	4/12/2022 8:54 AM
Sherman, Senator	SD 24, NH jennifer.horgan@leg.state.nh.us	An Elected Official	SD24	Support	No	No	4/12/2022 11:02 AM
Spencer, Louise	Concord, NH lpskentstreet@gmail.com	A Member of the Public	Myself	Support	No	No	4/12/2022 11:27 AM
Dolkart, Vivian	Grantham, NH viviandolkart@gmail.com	A Member of the Public	Myself	Support	No	No	4/12/2022 11:41 AM

Vermont Clean Cities Coalition

Granite State Clean Cities

MAINE CLEAN COMMUNITIES

Clean Cities Northern Tier Team Presents: Webinar 2 in a 2-part series

Electric School Bus Funding, Financing & Incentives

March 31| 3:30 pm – 5:00 pm



https://vtccc.w3.uvm.edu/



Peggy O'Neill-Vivanco
VTCCC & Outreach Coordinator
UVM Transportation Research Center Research Center
poneillv@uvm.edu

www.granitestatecleancities.nh.gov



Jessica Wilcox
GSCCC Coordinator & NHDES Transportation Program Specialist
Jessica.Wilcox@des.nh.gov

https://www.mainecleancommunities.org/who-we-are



Sara Mills-Knapp
Coordinator & Director of Sustainability
Greater Portland Council of Government
smills-knapp@gpcog.org

National Network of Clean Cities Coalitions

Nearly 100 Clean Cities coalitions with thousands of stakeholders, representing ~80% of U.S. population

cleancities.energy.gov



Vermont Clean, Granite State & Maine Clean Cities Coalitions









- ✓ Alternative Fuels, Vehicles & Equipment
- ✓ Fleet Fuel Efficiency & Emissions Reduction Efforts
- ✓ Connect fleets with fuel providers & industry partners
- ✓ Collect data and track project progress
- ✓ Provide Education & Outreach



Poll

Are you actively looking for electric school bus funding?

- Yes!
- Yes, we're trying to fill a funding gap
- We're not ready yet, but we're here to prepare
- No, but I'm curious what's available

Emily Eckert

Green Mountain Power (Vermont electric utility)

Development of GMP's Flexible Load Management pilot
(to support vehicle-to-grid technology)

Mike Domin

Sourcewell

Introduction to Cooperative Purchasing
& Climate Mayors Programs

Katie Vangsness

NCL Government Capital

Financing Electric School Bus Projects

EPA Clean School Bus Rebate Program

BIL provides $5 billion over five years (FY22-26)

First cycle = Rebate program opening as soon as late-April 2022!

Half of funds will go towards zero-emission (ZEV) school buses

Replace existing buses with low- and zero-emission school buses (e.g., ZEV, CNG, LPG, Biodiesel, etc.)

Eligible Recipients:

- Local or State government entities that provide bus service to public schools, or that purchases school buses for public schools
- Eligible contractors – *this definition may change*
- Nonprofit school transportation associations

Program Priorities:

- High-need local education agencies
- Tribal schools
- Rural or low-income areas
- Cost share through public-private partnerships, grants from other entities, or school bonds

EPA Clean School Bus Rebate Program

Charging and Fueling Infrastructure:

- Technical assistance page: https://www.epa.gov/cleanschoolbus/charging-and-fueling-infrastructure-resources
- Joint Office of Energy & Transportation to provide additional technical assistance

Rebate Program:

- Lottery selection
- Quick timeline for fleets to receive funding
- Funds are for bus replacements & infrastructure only
- Streamlined on-line application
- Create a 2022 Clean School Bus Inventory Sheet

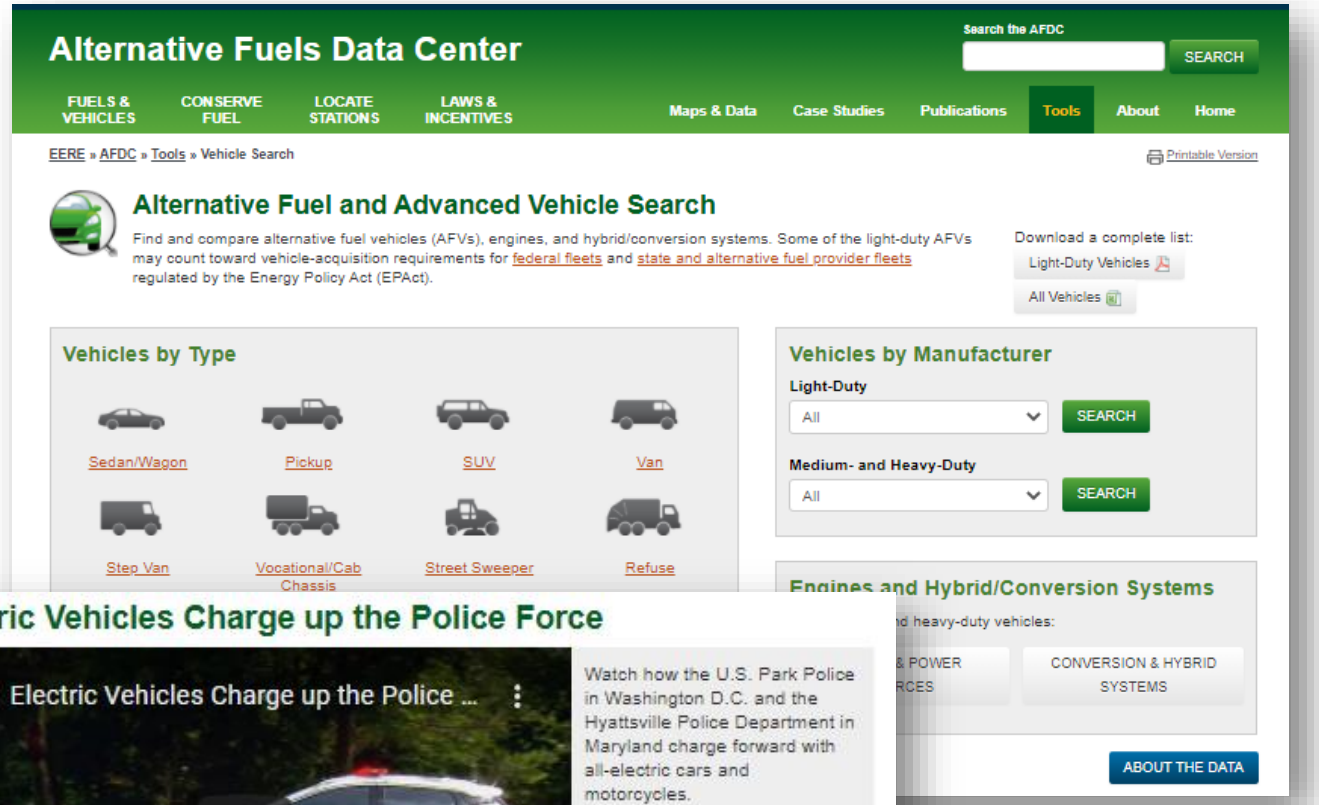
Please submit comments to: cleanschoolbus@epa.gov

More info coming … sign up for the email listserv:

https://lp.constantcontactpages.com/su/dgrhRed/cleanschoolbus

References and Resources

- AFDC Laws & Incentives:
  - https://afdc.energy.gov/
- AFDC Case Studies:
  - https://afdc.energy.gov/case/
- AFDC Vehicle Search Tool:
  - https://afdc.energy.gov/vehicles/search/
- AFLEET – Calculate Cost of Ownership:
  - https://greet.es.anl.gov/afleet



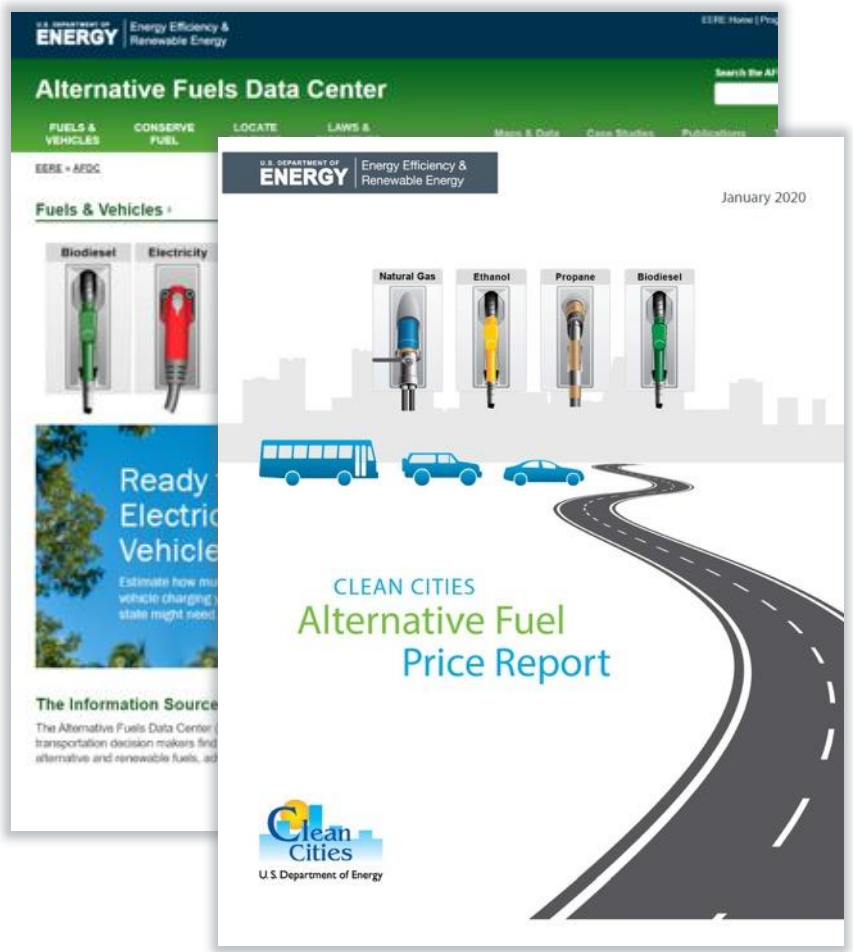


Poll

What are some of the barriers to accessing funding?

- Not knowing what funding sources are available
- Struggle to find the time to apply / lack of capacity
- Difficulty finding matching funding sources
- Other (share in the chat)

Information & Education:



afdc.energy.gov

Technical Assistance:



Technical Response Service

- **First-level** resource for stakeholders
- Research and respond to general inquiries
- Help with challenging questions
- Education for legislators and government officials.



Tiger Teams

- **Second-level** resource for coordinators and stakeholders
- Expert technical problem-solving to overcome obstacles
- Assistance on barriers that challenge local resources
- Help at any point in the project/product life cycle (concept, development, execution, operation/maintenance, closure)

Thank you!

Connect with your local Clean Cities Coalition for more information!

Peggy O'Neill-Vivanco

poneillv@uvm.edu

Jessica Poulin, VTCCC Intern

jjpoulin@uvm.edu

Jessica Wilcox

Jessica.L.Wilcox@des.nh.gov

Alicia DeBruin, GSCCC Intern

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smills-knapp@gpcog.org

Oona Molyneaux, MCC Intern

omolyneaux@gpcog.org

CLEAN ENERGY NH
Your Voice in All Energy Matters

14 Dixon Ave, Suite 202 | Concord, NH 03301 | 603.226.4732

April 12, 2022

Representative Thomas Walsh, Chair
House Transportation Committee
Legislative Office Building, Room 203
Concord, NH 03301

Testimony on SB417, establishing an electric school bus pilot program

Dear Chair Walsh and members of the Committee,

Clean Energy NH (CENH) is a non-profit, member-based organization. We are New Hampshire's leading clean energy advocate that is dedicated to supporting policies and programs that strengthen our state's economy by encouraging a transition to renewable energy and promoting energy efficiency. CENH founded and manages the coalition of electric vehicle (EV) advocates, Drive Electric NH, whose mission is to accelerate the adoption of EVs and the installation of supporting charging infrastructure in New Hampshire by increasing knowledge and awareness of EVs through education and outreach.

CENH supports SB417, because it presents an opportunity to advance the adoption of electric school buses by school systems and bus fleet operators across the state. The pilot program defined in SB417 is appropriately timed as electric school bus technology is already well developed and being adopted in school systems around the country. The benefits of this technology are that electric school buses are more energy efficient, have lower maintenance costs than diesel school buses, and offer a significant air quality benefit, particularly for their occupants. Levels of air contaminants from diesel fumes can be five to ten times higher inside a school bus than outside.

The challenges associated with establishing a school bus fleet at this time include the incremental cost of new electric buses compared to traditional diesel buses, as well as the cost of purchasing and installing the electric vehicle supply equipment (EVSE) that "fuels" the bus fleet. Currently, these costs are significant, and the lack of experience with these vehicles and the EVSE depots presents a barrier to local school systems and bus operators who are cost conscious. The

development of school bus pilots in New Hampshire would yield demonstration projects that could verify the projected cost savings, in terms of fuel and maintenance costs, that these vehicles can deliver to school systems and/or operators.

Further, the pilot also encourages the use of vehicle-to-grid (V2G) technology that could result in a new revenue stream that could offset the costs associated with the school buses and the EVSEs necessary for charging. Multiple pilots of this technology carried out in partnership with school bus fleet operators are already underway across the country. Electric buses utilize powerful batteries, which, during times the buses are not in use, could be a useful grid asset by providing electric power to the grid when it is needed. Realizing such an outcome requires upfront work with the local distribution utility, but, once set up, the buses could deliver power to the grid on very hot or even very cold days when electrical demand is highest, helping to keep regional energy costs down. Fleet operators can be compensated for this grid service, helping offset the current higher upfront costs of the transition to electric school bus fleets. The pilots encouraged by this legislation could enable such use cases in New Hampshire.

The pilots proposed also arrive at a time when school systems around New Hampshire are considering how to begin including electric school buses in their fleets. The integration process will need to pursue different models, as ownership of the school buses is not entirely uniform. The Oyster River Cooperative School District, which owns its own school bus fleet, has initiated discussions with its local electric utility. The Nashua Regional Planning Commission (NRPC), which does not own its bus fleet, has convened a working group with representatives from Commission, the surrounding communities, the local bus operator, bus manufacturers, Eversource, the NH Department of Environmental Services (NHDES), CENH, the Vermont Energy Investment Corporation, and the World Resources Institute. Pilots that support different ownership models and different size school systems and fleets could be critical to speeding electric bus adoption in a state that has rural, suburban, and urban schools.

CENH supports SB417, for the reasons described above, respectfully requests the Committee find the bill ought to pass.

Sincerely,

Kelly Buchanan

Kelly Buchanan
Director of Legislative & Regulatory Affairs
Clean Energy NH
Kelly@cleanenergynh.org
303-956-1246

Archived: Friday, April 22, 2022 9:09:17 AM
From: Cameron Lapine
Sent: Friday, April 8, 2022 11:39:35 AM
To: ~House Transportation Committee
Subject: FW: VT, NH, ME Electric School Bus Webinar Series
Response requested: No
Importance: Normal
Attachments:
Electric School Bus Webinar Series.pdf ;MHDEV Webinar 5 VTMENHCleanCities_FINAL.pdf ;MHDEV Webinar 6 VTMENHCleanCities_FINAL.pdf ;

Good Morning,

Please find attached three documents Senator Watters asked me to share with the House Transportation Committee as they are related to SB 417.

Best,
Cameron M. Lapine
Senate Legislative Aide

Senator David Watters (District 4)
Senator Rebecca Perkins Kwoka (District 21)
Senate Health and Human Services Committee

Cameron.lapine@leg.state.nh.us
603-271-2104

From: Senator David Watters <watterssenate@gmail.com>
Sent: Friday, April 8, 2022 11:36 AM
To: Cameron Lapine <Cameron.Lapine@leg.state.nh.us>
Subject: Fwd: VT, NH, ME Electric School Bus Webinar Series

Please share with House Transportation Committee.

---------- Forwarded message ---------
From: **Jonathan Gagne** <jgagne@gpcog.org>
Date: Fri, Apr 8, 2022 at 11:17 AM
Subject: VT, NH, ME Electric School Bus Webinar Series
To: Jonathan Gagne <jgagne@gpcog.org>

Happy Friday,

Thank you for attending our two-part webinar series on electric school buses. We had some amazing resources shared from our presenters outlining the vehicle-to-grid possibilities and programs with electric school buses and then dove into some of the funding and financing mechanisms. I have attached a copy of the slide deck from both webinars, along with a PDF that highlights some important information shared from our presenters. Slide decks from the presenters are available upon request.

The video links can be found below and within the PDF.

Webinar 1: Electric School Buses: A study in Vehicle-to-Grid (V2G) Technology

Webinar 2: Electric School Buses: Funding, Financing & Incentives

If your organization is interested in continuing the conversation around electric school buses, your states Clean Cities coalition is the perfect place to start.

Vermont Clean Cities Coalition: Peggy O'Neill-Vivanco, poneillv@uvm.edu

Granite State Clean Cities: Jessica Wilcox, Jessica.L.Wilcox@des.nh.gov

Maine Clean Communities: Sara Mills-Knapp, smills-knapp@gpcog.org

Have a wonderful weekend,

Jonathan Gagne

Sustainability Program Associate

Greater Portland Council of Governments

(207) 577 - 6603

jgagne@gpcog.org

www.gpcog.org

970 Baxter Boulevard, Suite 201, Portland, ME 04103

GPCOG
GREATER PORTLAND
COUNCIL OF GOVERNMENTS



Disclaimer

The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast, a leader in email security and cyber resilience. Mimecast integrates email defenses with brand protection, security awareness training, web security, compliance and other essential capabilities. Mimecast helps protect large and small organizations from malicious activity, human error and technology failure; and to lead the movement toward building a more resilient world. To find out more, visit our website.

--
Sen. David H. Watters
www.davidwattersforsenate.org
watterssenate@gmail.com
Contribute to my Campaign
Like My Page on Facebook
(603) 969-9224
19 Maple St.
Dover, NH 03820

Vermont, New Hampshire and Maine Two-Part Webinar Series on Electric School Bus Technology and Funding

Webinar 1: Electric School Buses: A study in Vehicle-to-Grid (V2G) Technology

Webinar 2: Electric School Buses: Funding, Financing & Incentives

Webinar 1: Electric School Buses: A study in Vehicle-to-Grid (V2G) Technology

Poll(s)

Has your organization previously explored vehicle-to-grid (V2G) technology?

- (54%) Yes!
- (5%) No
- (34%) Not yet, but maybe in the future!
- (5%) We explored it in the past, but we hit roadblocks
- (2%) What is V2G??

Regarding fleet electrification, what are some of the biggest roadblocks you've hit or seen?

- (18%) Lack of technical assistance with federal and state funding
- (5%) Gaps in educational resources & materials
- (23%) Inadequate charging infrastructure
- (36%) Need support with grant application, timeline, and process
- (18%) Other

Willet Kempton, EV Research & Development Group, University of Delaware – Introduction to V2G Tech

Contact information: willet@udel.edu, https://crew.udel.edu/v2g/

Willet discusses the key concepts of V2G technology, how and why it's an effective technology with extensive potential, and the aggregation of V2G. Willet also covers a high-level scope of the value V2G can provide to the users, utility, and even the community.

Q: How does V2G usage effect battery warranty and/or service life?

A: Within 8 years of driving, there was about an 8% loss in battery capacity from driving/charging – if V2G was added to this it would be an additional 2%.

Reference: Shinzaki, S., Sadano, H., Maruyama, Y., and Kempton, W., "Deployment of Vehicle-to-Grid Technology and Related Issues," SAE Technical Paper 2015-01-0306, 2015, doi:10.4271/2015-01-0306

Q: Where are V2G charge ports located? Do public and/or work place chargers have V2G capability?

A: Right now, they're uncommon and our current EV charging stations don't have V2G capabilities. If you do purchase a V2G charger they need to be compatible with the aggregator and vehicle (synchronized purchase).

Q: I have heard that some of the "high value" markets are very "thin." For instance, the installation of a single high profile battery storage system in South Australia caused the prices for ancillary services to collapse. thoughts about the implications for V2Gs value proposition??

A: ISO markets "thin". Yes, maybe5-10% of V2G vehicles would meet much of current regulation market. That will take a while. Then, there are many other markets, and as we add more renewables, the need for storage increases much more than today. Long run, payments may decrease but market will continue to grow as we increase renewables.

Tim Farquer, Superintendent, Williamsfield Schools, Illinois – Developing a bus-to-grid pilot project

Contact information: tim.farquer@billtown.org

Buses tend to be one of the largest capital expenses for schools. Tim discusses how school buses can continue to provide value with V2G technology during idle periods. Watch the recording to hear how Tim leverages value from these buses and explore how they can be a solution for energy storage, which is a current bottleneck of energy expansion.

Q: How are programs worked where a school district contracts with a school bus company to operate their bus service? Are revenues shared?

A: Models are actively being explored as this technology becomes more popular to pass revenue savings down to the school districts with flat rates/percentage of revenue sharing.

Q: Does outdoor temp reduce the efficacy of V2G? Thinking of our winters up here (Northeast).

A: Any impacts to battery efficiency will be seen once approaching the freezing temperatures. Outside temp will reduce range due to the need to power the thermal management system. Most manufactures maintain a battery temp of 70 degrees.

Gary Marckres, Director of Operations & Finance, Burlington School District, VT – Implementing a Volkswagen-funded bus-to-grid pilot

- 2020 VW Funding for 4 electric (V2G) school buses
    - Coordinated with utility, Green Mountain Power for infrastructure (DC Fast Chargers)
    - Utilized GMPs Tier 3 incentives, distributed marginal pricing & flexible load management credit programs
    - Batteries to provide power to the grid during outage events
    - Buses arrive spring 2022

Webinar 2: Electric School Buses: Funding, Financing & Incentives

Poll(s)

Are you actively looking for school bus funding?

- (21%) Yes!
- (12%) Yes, we're trying to fill a funding gap
- (32%) We're not ready yet, but we're here to prepare
- (35%) No, but curious what's available

What are some of the barriers to accessing funding?

- (16%) Difficulty finding matching funding sources
- (37%) Not knowing what funding sources are available
- (42%) Struggle to find the time to apply / lack of capacity
- (5%) Other (share in chat)

Emily Eckert, Green Mountain Power (Vermont electric utility) – Development of GMP's Flexible Load Management pilot (to support vehicle-to-grid technology)

Contact information: Emily.Eckert@greenmountainpower.com

Emily joins us from Green Mountain Power to discuss the development of the Flexible Load Management Pilot program that allows the utility to share the savings to schools in Vermont who participate with V2G technology through a bill credit. The pilot focuses on peak shaving (decreasing the amount of energy pulled from the New England grid which in turn saves money for everyone).

Q: Do the charging ports support V2G technology?

A: The V2G technology has a lot to do with what's built into the bus itself. The bus needs bidirectional technology to receive and output energy back into the grid.

Q: Who is paying for the V2G PCS? The school district or utility? Is GMP putting in the bidirectional infrastructure and then giving this rebate in addition to school districts to enable them to capitalize on this technology?

A: This cost does fall onto the school districts and whether or not they want to have this technology installed or not. However, GMP does have a program to offer a bill credit based on avoided expenses for Regional Network Service (RNS is the transmission service that transmission customers purchase in order to serve their network load in the New England Control Area) and for capacity of $6.60 kW and $42ish kW during peak load times.

Mike Domin, Sourcewell – Introduction to Cooperative Purchasing & Climate Mayors Programs

Contact information: mike.domin@sourcewell-mn.gov

Sourcewell is a public government agency that can assist on the procurement side of school buses at a national level. View the attached video from webinar 2 to hear Mike explain all the benefits of a Sourcewell contract and if it's the right fit for your agency. Sourcewell contracts: sourcewell-mn.gov

Q: Can source well work with private co that provide busing for schools?

A: Yes, Sourcewell contracts are primarily for governments as they are the agencies that need to go through a process. Talking specifically about a private bus contractor, it is possible to utilize a Sourcewell contract, but will have to pull in the school district(s).

Q: In these times of supply chain issues how does Sourcewell enforce price and delivery?

A: The supply chain right now is simply taking longer. What used to take 3 months is now taking a year and a half. If you're ordering anything chassis or larger, you're seeing delivery times of late 2023 into 2024 – regardless of where it's being bought from.

Katie Vangsness, NCL Government Capital – Financing Electric School Bus Projects

Contact information: katiev@nclgovcap.com

Katie digs into how NCLs Sourcewell contracts spotlights financing solutions related to electric school buses and charging infrastructure projects like vehicle-to-grid. Katie discusses how to combine financing with grant funding.

Q: How does the financing aspect that can be accessed through NCL compared to the local bonds that schools and communities sometimes will utilize to help try to fund projects?

A: Ultimately it's going to be any added restrictions that a bond might add – most bonds are considered to be debt for most agencies, where if you utilize a lease or financing arrangement with a non-appropriation clause you may be able to classify that as an operating expense which wouldn't go against your debt covenants.

Four Major Electric School Bus Manufacturers

Lion Electric - https://thelionelectric.com/en

Blue Bird - https://www.blue-bird.com/

Thomas - https://thomasbuiltbuses.com/electric-school-buses/electric-bus/

IC - https://www.icbus.com/electric

All four major manufacturers have committed to bidirectional capabilities for their buses.

Nuvve: https://nuvve.com/buses/

Funding Programs

EPA Clean School Bus Rebate Program

BIL provides $5 billion over five years (FY 22-26)
First cycle = Rebate program opening as soon as late April 2022!
Half funds will go towards zero-emission vehicles (ZEV) school buses
Program website: https://www.epa.gov/cleanschoolbus
Upcoming and past events: https://www.epa.gov/cleanschoolbus/events-related-clean-school-bus-program#past_events
Sign up for the email listserv: https://lp.constantcontactpages.com/su/dgrhRed/cleanschoolbus
Prepare for funding: https://www.epa.gov/cleanschoolbus/prepare-clean-school-bus-funding

Rebate Program:

- Lottery selection
- Quick timeline for fleets to receive funding
- Funds are for bus replacements & infrastructure only
- Streamlined on-line application
- Create a 2022 Clean School Bus Inventory Sheet

Eligible Recipients:

- Local or State government entities that provide bus service to public schools, or that purchases school buses for public schools
- Eligible contractors – *this definition may change*
- Nonprofit school transportation associations

Program Priorities:

- High-need local education agencies
- Tribal schools
- Rural or low-income areas
- Cost share through public-private partnerships, grants from other entities, or school bonds

Justice 40 Initiative: https://www.transportation.gov/equity-Justice40

FTA Grants for Buses & Bus Facilities Program, Sub Program: Low or No Emissions (Low-No) Program

Bus & Bus Facilities: https://www.transit.dot.gov/bus-program

Low-No: https://www.transit.dot.gov/lowno

Both can be used to purchase electric buses

Clean Cities References and Resources

AFDC Laws & Incentives: https://afdc.energy.gov/

AFDC Case Studies: https://afdc.energy.gov/case/

AFDC Vehicle Search Tool: https://afdc.energy.gov/vehicles/search/

AFLEET – Calculate Cost of Ownership: https://greet.es.anl.gov/afleet

Information & Education:

Alternative Fuel Data Center: afdc.energy.gov

Technical Assistance:

Technical Response Service

- **First-level** resource for stakeholders
- Research and respond to general inquiries
- Help with challenging questions
- Education for legislators and government officials.

Tiger Teams

- **Second-level** resource for coordinators and stakeholders
- Expert technical problem-solving to overcome obstacles
- Assistance on barriers that challenge local resources
- Help at any point in the project/product life cycle (concept, development, execution, operation/maintenance, closure)

Vermont Clean Cities Coalition: Peggy O'Neill-Vivanco, poneillv@uvm.edu

Granite State Clean Cities: Jessica Wilcox, Jessica.L.Wilcox@des.nh.gov

Maine Clean Communities: Sara Mills-Knapp, smills-knapp@gpcog.org

Vermont Clean Cities Coalition

Granite State Clean Cities

MAINE CLEAN COMMUNITIES

Clean Cities Northern Tier Team Presents:
Webinar 1 in a 2-part series

Intro to Vehicle-to-Grid Charging Technology and Electric School Bus pilot projects

March 24| 3:30 pm – 5:00 pm



https://vtccc.w3.uvm.edu/



Peggy O'Neill-Vivanco
VTCCC & Outreach Coordinator
UVM Transportation Research Center Research Center
poneillv@uvm.edu

www.granitestatecleancities.nh.gov



Jessica Wilcox
GSCCC Coordinator & NHDES Transportation Program Specialist
Jessica.Wilcox@des.nh.gov

https://www.mainecleancommunities.org/who-we-are



Sara Mills-Knapp
Coordinator & Director of Sustainability
Greater Portland Council of Government
smills-knapp@gpcog.org

National Network of Clean Cities Coalitions

Nearly 100 Clean Cities coalitions with thousands of stakeholders, representing ~80% of U.S. population

cleancities.energy.gov



Vermont Clean, Granite State & Maine Clean Cities Coalitions









- ✓ Alternative Fuels, Vehicles & Equipment
- ✓ Fleet Fuel Efficiency & Emissions Reduction Efforts
- ✓ Connect fleets with fuel providers & industry partners
- ✓ Collect data and track project progress
- ✓ Provide Education & Outreach



Poll

Has your organization previously explored vehicle-to-grid (V2G) technology?

- Yes!
- No
- Not yet, but maybe in the future!
- We explored it in the past, but we hit roadblocks
- What is V2G??

Willett Kempton

Father of Vehicle-to-Grid

Introduction to V2G technology

Tim Farquer

Superintendent, Williamsfield Schools, Illinois

Developing a bus-to-grid pilot project

Gary Marckres

Director of Operations & Finance, South Burlington School District, Vermont

Implementing a Volkswagen-funded bus-to-grid pilot

South Burlington School District

We inspire all learners to make a difference in the world

- SB is 4th largest school district
- 20% of students LMI
- 2020 VW Funding for 4 electric (V2G) school buses
- Coordinated with utility, Green Mountain Power for infrastructure (DC Fast Chargers)
- Utilized GMP's Tier 3 incentives, distributed marginal pricing & flexible load management credit programs
- Batteries to provide power to the grid during outage events.
- Buses to arrive spring 2022

Upcoming Webinar

Webinar 2 in this 2-part series:

Electric School Buses: Funding, Financing, and Incentives

Learn about a utility's Flexible Load Management Pilot which supports V2G charging technology for ESB deployments. Dig into opportunities to procure, fund and finance ESB and V2G infrastructure projects.

<<<link in chat >>>

https://us02web.zoom.us/meeting/register/tZ0ocuCprz8jGtR-7ZCl69Ys4fKbeUdue_gu

EPA Clean School Bus Rebate Program

BIL provides $5 billion over five years (FY22-26)

First cycle = Rebate program opening as soon as late-April 2022!

Half of funds will go towards zero-emission (ZEV) school buses

Replace existing buses with low- and zero-emission school buses (e.g., ZEV, CNG, LPG, Biodiesel, etc.)

Eligible Recipients:

- Local or State government entities that provide bus service to public schools, or that purchases school buses for public schools
- Eligible contractors
- Nonprofit school transportation associations

Program Priorities:

- High-need local education agencies
- Tribal schools
- Rural or low-income areas
- Cost share through public-private partnerships, grants from other entities, or school bonds

EPA Clean School Bus Rebate Program

Charging and Fueling Infrastructure:

- Technical assistance page: https://www.epa.gov/cleanschoolbus/charging-and-fueling-infrastructure-resources
- Joint Office of Energy & Transportation to provide additional technical assistance

Rebate Program:

- Lottery selection
- Quick timeline for fleets to receive funding
- Funds are for bus replacements & infrastructure only
- Streamlined on-line application
- Create a 2022 Clean School Bus Inventory Sheet

Please submit comments to: cleanschoolbus@epa.gov

More info coming … sign up for the email listserv:

https://lp.constantcontactpages.com/su/dgrhRed/cleanschoolbus

FTA Grants for Buses & Bus Facilities Program

Sub-program: Low or No Emission (Low-No) Program

Bus & Bus Facilities: https://www.transit.dot.gov/bus-program

Low-No: https://www.transit.dot.gov/lowno

Both can be used to purchase electric buses

Grants for Buses and Bus Facilities Program:

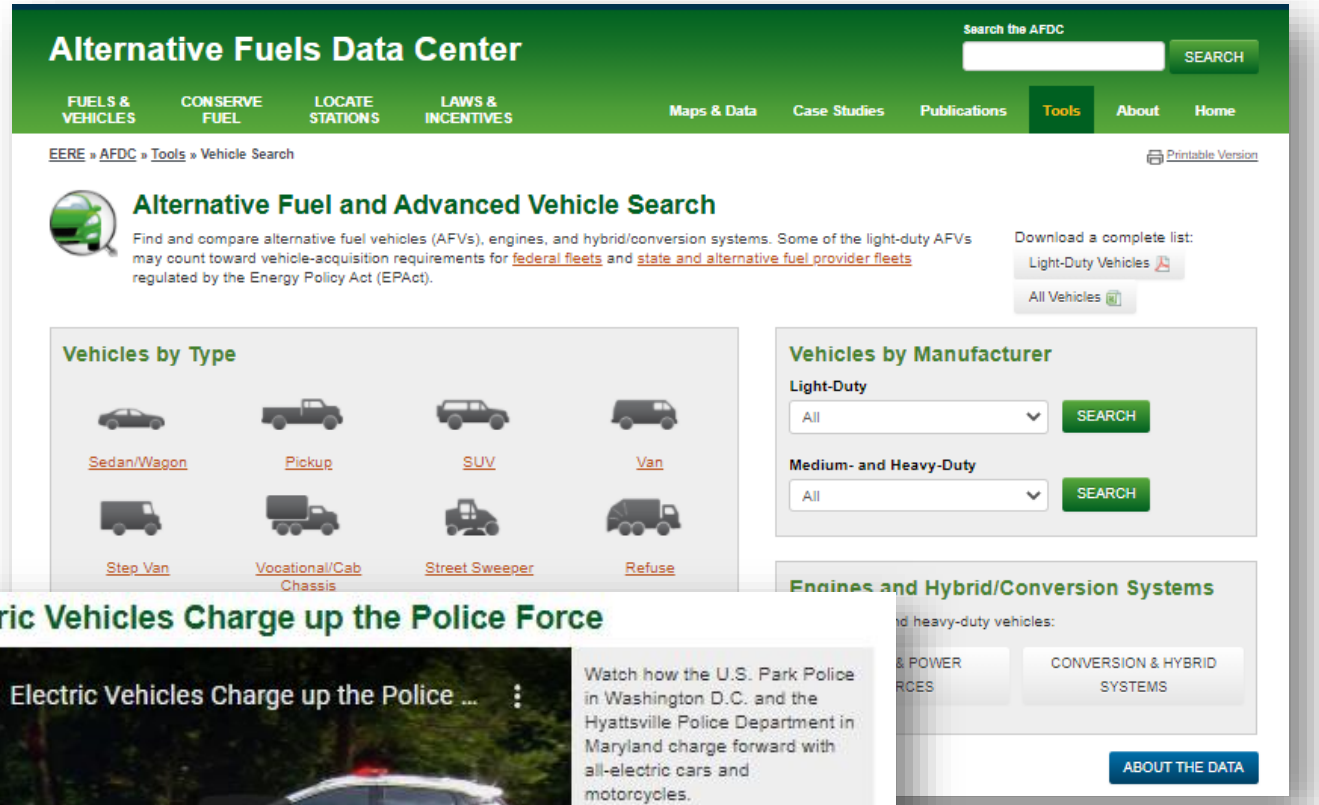
- replace, rehabilitate and purchase buses and related equipment
- construct bus-related facilities
- technological changes or innovations to modify low or no emission vehicles or facilities

Low or No-Emission Vehicle Program

- provides competitive grants for bus and bus facility projects that support low and zero-emission vehicles

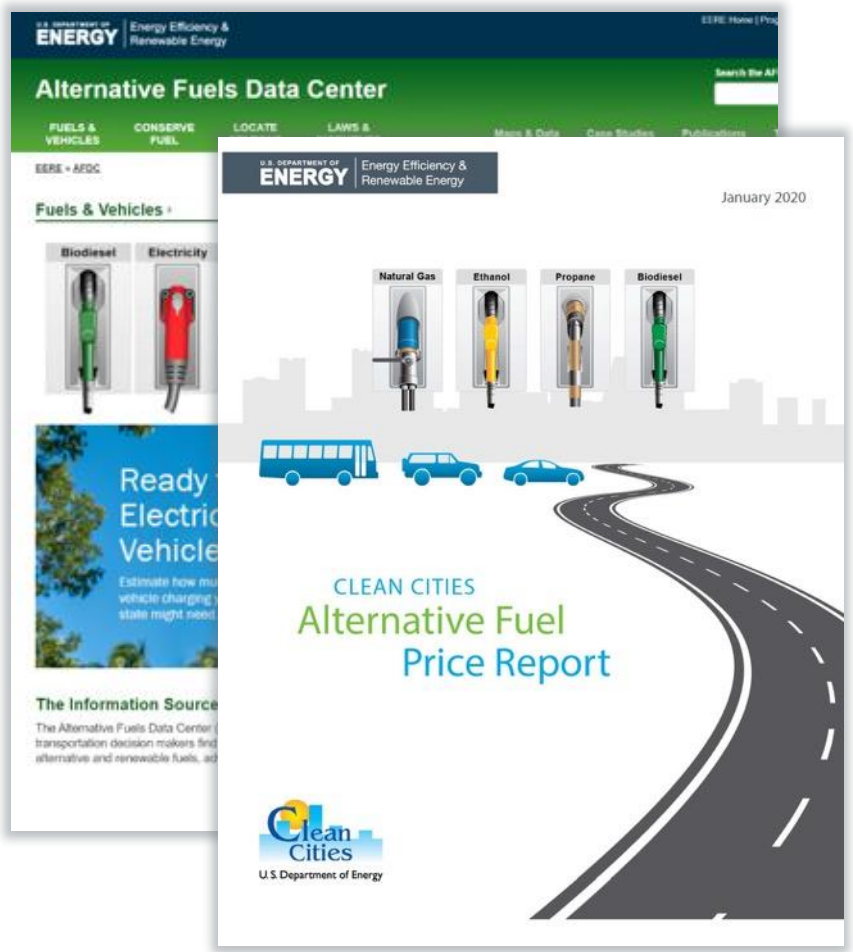
References and Resources

- AFDC Laws & Incentives:
  - https://afdc.energy.gov/
- AFDC Case Studies:
  - https://afdc.energy.gov/case/
- AFDC Vehicle Search Tool:
  - https://afdc.energy.gov/vehicles/search/
- AFLEET – Calculate Cost of Ownership:
  - https://greet.es.anl.gov/afleet





Information & Education:



afdc.energy.gov

Technical Assistance:



Technical Response Service

- **First-level** resource for stakeholders
- Research and respond to general inquiries
- Help with challenging questions
- Education for legislators and government officials.



Tiger Teams

- **Second-level** resource for coordinators and stakeholders
- Expert technical problem-solving to overcome obstacles
- Assistance on barriers that challenge local resources
- Help at any point in the project/product life cycle (concept, development, execution, operation/maintenance, closure)

Poll

Regarding fleet electrification, what are some of the biggest roadblocks you've hit or seen?

- Lack of technical assistance with federal and state funding
- Gaps in educational resources & materials
- Inadequate charging infrastructure
- Need support with grant application, timeline, and process
- Other (write answers in chat)

Thank you!

Connect with your local Clean Cities Coalition for more information!

Peggy O'Neill-Vivanco

poneillv@uvm.edu

Jessica Poulin, VTCCC Intern

jjpoulin@uvm.edu

Jessica Wilcox

Jessica.L.Wilcox@des.nh.gov

Alicia DeBruin, GSCCC Intern

alicia.debruin@des.nh.gov

Sara Mills-Knapp

smills-knapp@gpcog.org

Oona Molyneaux, MCC Intern

omolyneaux@gpcog.org

SB 417-FN - AS AMENDED BY THE SENATE

03/24/2022 1128s

2022 SESSION

22-2986
12/10

SENATE BILL ***417-FN***

AN ACT establishing an electric school bus pilot program.

SPONSORS: Sen. Watters, Dist 4; Sen. Perkins Kwoka, Dist 21; Sen. Whitley, Dist 15; Sen. D'Allesandro, Dist 20; Sen. Sherman, Dist 24; Sen. Hennessey, Dist 1; Sen. Prentiss, Dist 5; Sen. Rosenwald, Dist 13; Sen. Avard, Dist 12; Sen. Soucy, Dist 18; Sen. Carson, Dist 14; Sen. Cavanaugh, Dist 16; Sen. Kahn, Dist 10; Rep. Telerski, Hills. 35; Rep. Steven Smith, Sull. 11

COMMITTEE: Transportation

AMENDED ANALYSIS

This bill establishes an electric school bus pilot program within the department of environmental services.

- -

Explanation: Matter added to current law appears in ***bold italics.***
Matter removed from current law appears [~~in brackets and struckthrough.~~]
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Twenty Two

AN ACT establishing an electric school bus pilot program.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 New Chapter; Electric School Bus Pilot Program. Amend RSA by inserting after chapter 374-H the following new chapter:

CHAPTER 374-I

ELECTRIC SCHOOL BUS PILOT PROGRAM

374-I:1 Definitions. In this chapter:

I. "Electric school bus" means a school bus that is powered exclusively by an electric motor that draws its current from rechargeable storage batteries, which are recharged with electricity from an electronic vehicle charging station.

II. "Electronic vehicle charging station" means an electronic vehicle charging station as defined in RSA 236:132.

III. "Incremental cost" means, for the purpose of this program, the difference in cost between the purchase and deployment of a conventional school bus versus the purchase and deployment of an electric school bus and may be inclusive of the cost of the vehicle, infrastructure such as electric charging infrastructure necessary to operate the vehicle, and any additional administration cost of implementing an electric school bus program.

IV. "Interconnection equipment" means a group of components or an integrated system that connects an electronic vehicle charging station with the distribution system of an electric utility.

V. "Interconnection facilities" means facilities required by the electric utility to accommodate the interconnection of an electronic vehicle charging station.

VI. "Participating school district" means a school district located within an electric utility company's service territory that:

(a) Participates in an electric school bus vehicle-to-grid or demand response pilot program either as the participating entity or under an agreement with a participating entity; and

(b) Owns its school buses or contracts for school bus services.

VII. "Program costs" mean any costs to acquire and deploy electric school buses.

VIII. "Vehicle-to-grid" means a system in which the energy stored in the batteries of plug-in electric vehicles can be returned to the electrical grid.

374-I:2 Pilot Program Established.

I. There is hereby established an electric school bus pilot program to be administered by the department of environmental services.

II. The commissioner of the department of environmental services may allocate funding from the New Hampshire Volkswagen Mitigation Trust for the electric school bus pilot program and may apply for and accept any other federal funding for the purposes of funding and administering this program.

374-I:3 Requests for Proposals. The department of environmental services shall initiate an electric school bus pilot program within 3 months of the effective date of this chapter to provide available funding for electric school buses and associated charging infrastructure. A request for proposal shall identify the amount of funding that is available to offset the incremental costs of the electric school buses, the electric vehicle service equipment, and the administrative costs of implementing a qualified pilot program.

374-I:4 Qualified Pilot Programs. A qualifying pilot program shall:

I. Allow proposals to be submitted by any of the following:

(a) Investor-owned utilities;

(b) Electric vehicle charging equipment providers;

(c) Municipalities or school districts that operate school buses;

(d) Entities that have experience in owning and operating electric vehicle charging equipment; or

(e) School bus companies contracted for services by a New Hampshire school district.

II. Commence on or before December 31, 2023.

III. Allow, pending review and approval of the department of energy, the local electric utility to access and utilize the energy stored in the batteries of the electric school buses at times when such action is necessary to meet current power demand or when utilizing the energy in the stored batteries can lower the cost of supplying power to customers, provided that the participating school district determines that the school buses are not needed to transport students and that the participating entity is fairly compensated for energy recovered from the batteries.

IV. Allow, after the review of the department of energy, the cost to a utility for make-ready transmission or distribution to a facility, and any other costs reasonably incurred by the utility in support of this program to be a recoverable cost.

V. Provide training for school personnel in the proper use of the equipment and facilities.

VI. Require each funded bus to comply with the recommendations the National Transportation Safety Board relative to student transportation and provide for adequate interior heat for winter operations.

VII. Require selected applicants provide the department of energy with any information, data, and analysis that the department requires, including data relative to electric rates, and benefits and costs of the pilot program.

374-I:5 Reports. The department of environmental services shall, by January 31, 2023 and each year thereafter for the duration of any approved pilot program, report on the status of the pilot

program to the governor, the senate president, speaker of the house, and the chair of the senate transportation committee, and the chair of the house transportation and science, technology and energy committee. The report shall include:

I. An evaluation of the environmental and health benefits of the pilot program; and

II. The financial costs and benefits of implementing the pilot program to the participating school system and the participating entity, including:

(a) The deployment, operating, and maintenance of the electric school buses; and

(b) The use of vehicle-to-grid technology.

374-I:6 Additional Funds. If additional funds become available for the program the department of environmental services shall issue a new request for proposals. Eligible applicants shall include both entities funded and not funded through the initial program.

2 Prospective Repeal. RSA 374-I, relative to electric school bus pilot programs, is repealed.

3 Effective Date.

I. Section 2 of this act shall take effect January 1, 2027.

II. The remainder of this act shall take effect 60 days after its passage.

LBA
22-2986
Amended 4/8/22

SB 417-FN- FISCAL NOTE
AS AMENDED BY THE SENATE (AMENDMENT #2022-1128s)

AN ACT establishing an electric school bus pilot program.

FISCAL IMPACT: [X] State [ ] County [X] Local [ ] None

	Estimated Increase / (Decrease)			
STATE:	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Appropriation	$0	$0	$0	$0
Revenue	$0	Indeterminable	Indeterminable	Indeterminable
Expenditures	$0	Indeterminable Increase	Indeterminable Increase	Indeterminable Increase
Funding Source:	[X] General [ ] Education [ ] Highway [X] Other - Volkswagen Mitigation Trust Fund, federal funds			

LOCAL:

Revenue	$0	Indeterminable Increase	Indeterminable Increase	Indeterminable Increase
Expenditures	$0	Indeterminable Increase	Indeterminable Increase	Indeterminable Increase

METHODOLOGY:

This bill establishes an electric school bus pilot program within the department of environmental services.

The New Hampshire Department of Environmental Services (NHDES) indicates potential federal funds from the Clean School Bus Program could increase state revenue by an indeterminable amount. NHDES estimates the cost to implement the program would be $7,140 based on 140 hours of work by existing staff to develop a request for proposals, evaluate responses, select proposals and develop a contract(s) with an applicant(s) and oversee project implementation. Following the first year an additional 25 hours/year would be required for oversight of the contract(s) at an estimated cost of $1,275 per year.

NHDES provides the following information on the incremental cost of an electric school bus versus a conventional diesel bus:

- Increment cost of a bus: estimated to be $200,000 to $250,000.
- Charging infrastructure is estimated at $10,000-$30,000 per bus.

- Driver and technician training is estimated at $5,000 per project (whether project is one or five buses).
- The total incremental cost is $211,000 to $285,000 per bus.
- Assuming 5 buses will be funded by this project, the total project cost would be estimated to be $1,055,000 to $1,425,000.
- Grants would be awarded to municipalities and/or private school transportation providers, resulting in indeterminable local revenues and expenditures.

The Department of Energy indicates the potential cost to the Department is indeterminable. The Department states additional staff time will be necessary to evaluate plans submitted by the utilities to access energy stored in the batteries of the electric school buses, review the costs incurred by utilities, including physical infrastructure, and determine if such costs were reasonably incurred. The amount of additional staff time and the possible need for additional staff is not known and will depend upon the funding available and the number and size of qualified pilot programs.

It is assumed that any fiscal impact would occur after FY 2022.

AGENCIES CONTACTED:

Departments of Environmental Services and Energy