



**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

To: James Reardon, Commissioner of Finance & Management  
From: Nathan Lavery, Fiscal Analyst  
Date: June 30, 2008  
Subject: JFO #2326

No Joint Fiscal Committee member has requested that the following item be held for review:

**JFO #2326** — \$194,494 grant from the US Environmental Protection Agency. These grant funds will be used for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This program will reduce school bus emissions, improve school bus fuel efficiency, and develop an outreach plan for school officials.

*[JFO received 05/29/08]*

In accordance with 32 V.S.A. §5, the requisite 30 days having elapsed since this item was submitted to the Joint Fiscal Committee, the Governor's approval may now be considered final. We ask that you inform the Secretary of Administration and your staff of this action.


cc: Linda Morse, Administrative Assistant  
George Crombie, Secretary  
Laura Pelosi, Commissioner



**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

To: Joint Fiscal Committee Members

From: Nathan Lavery, Fiscal Analyst 

Date: May 30, 2008

Subject: Grant Request

Enclosed please find one (1) request which the Joint Fiscal Office recently received from the Administration:

**JFO #2326** — \$194,494 grant from the US Environmental Protection Agency. These grant funds will be used for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This program will reduce school bus emissions, improve school bus fuel efficiency, and develop an outreach plan for school officials.

*[JFO received 05/29/08]*

The Joint Fiscal Office has reviewed this submission and determined that all appropriate forms bearing the necessary approvals are in order.

In accordance with the procedures for processing such requests, we ask you to review the enclosed and notify the Joint Fiscal Office (Nathan Lavery at 802/828-1488; [nlavery@leg.state.vt.us](mailto:nlavery@leg.state.vt.us) or Stephen Klein at 802/828-5769; [sklein@leg.state.vt.us](mailto:sklein@leg.state.vt.us)) if you have questions or would like this item held for legislative review. Unless we hear from you to the contrary by June 13 we will assume that you agree to consider as final the Governor's acceptance of this request.

cc: James Reardon, Commissioner  
Linda Morse, Administrative Assistant  
George Crombie, Secretary  
Laura Pelosi, Commissioner

JFO#  
2326

STATE OF VERMONT  
GRANT ACCEPTANCE FORM

GRANT SUMMARY: Title: Cooperative Agreement between VTFPR and US Fish and Wildlife

This is a request for approval of a grant from US EPA for \$194,494.00 for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This initiative will reduce school bus emissions, improve school bus fuel efficiency and develop the outreach plan for school officials to communicate details of the initiative and where fleet owners can obtain technical assistance.

DATE: May 7, 2008

DEPARTMENT: Environmental Conservation (ANR)

GRANT / DONATION: \$194,494.00

FEDERAL CATALOG No.: 66.036

GRANTOR / DONOR: US EPA - New England Region 1

AMOUNT / VALUE: \$194,494.00

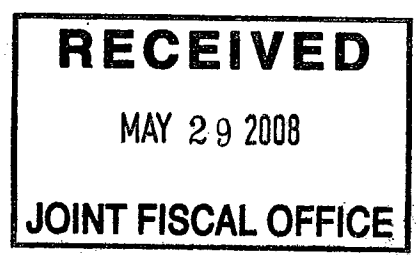
POSITIONS REQUESTED: None

GRANT PERIOD: 12/01/2006 to 11/30/2008

COMMENTS: See attachments.

DEPARTMENT OF FINANCE AND MANAGEMENT:  
SECRETARY OF ADMINISTRATION  
SENT TO JOINT FISCAL OFFICE:

(INITIAL) SM 5/12/08  
(INITIAL) APM 5/12/08  
DATE: 5/22/08



**STATE of VERMONT**  
**AGENCY of NATURAL RESOURCES**  
**DEPARTMENT of ENVIRONMENTAL CONSERVATION**  
~ COMMISSIONER'S OFFICE ~

**MEMORANDUM**

**Tel: (802) 241-3810**

**Fax: (802) 244-5141**

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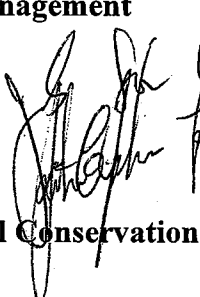
**TO:** Jason Aronowitz, Budget Analyst  
Department of Finance & Management

**THRU:** George Crombie, Secretary  
Agency of Natural Resources

**FROM:** Laura Pelosi, Commissioner  
Department of Environmental Conservation

**DATE:** April 7, 2008

**SUBJECT:** AA-1 request



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Attached is a request for a grant acceptance (AA-1) for a grant from US Environmental Protection Agency for the Clean School Bus program. All relevant grant documentation has been attached.

If you have any questions or are in need of further information, please do not hesitate to contact me. Thank you for your attention in this matter.

**Cc: Steve Chadwick, ANR**  
**Joanna Raycraft, DEC**

STATE OF VERMONT  
REQUEST FOR GRANT ACCEPTANCE  
(use additional sheets as needed)

FORM AA-1  
(Rev. 9-90)

1. Agency: **Agency of Natural Resources**
2. Department: **Department of Environmental Conservation**
3. Program: **Clean School Bus USA**
4. Legal Title of Grant: **Vermont Clean School Bus Project**
  
5. Federal Catalog No.: **66.036**
6. Grantor and Office Address: **U.S. EPA - New England, Region I  
1 Congress Street, Suite 1100  
Boston MA 02114-2023**
7. Grant Period: **2 years** From: **12/01/2006** To: **11/30/2008**

8. Purpose of Grant (attach additional sheets if needed):  
**Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This initiative will reduce school bus emissions, improve school bus fuel efficiency and develop the outreach plan for school officials to communicate details of the initiative and where fleet owners can obtain technical assistance.**

9. Impact on Existing Programs if Grant is not Accepted:  
**This grant does not directly affect existing programs but will impact future EPA funding for the mobile source air quality program.**

10. Budget Information:	(1st State FY) <u>FY 2008</u>	(2nd State FY) <u>FY 2009</u>	(3rd State FY) <u>FY 2010</u>
<b>EXPENDITURES:</b>			
Personal Services	\$ 36,135.00	\$ 18,068.00	\$ -
Operating Expenses	\$ 2,370.00	\$ 1,185.00	\$ -
Other	\$ 108,293.00	\$ 54,146.00	\$ -
<b>TOTAL</b>	<b>\$ 146,798.00</b>	<b>\$ 73,399.00</b>	<b>\$ -</b>
<b>REVENUES:</b>			
<b>State Funds:</b>			
Cash	\$ -	\$ -	\$ -
In-Kind	\$ 24,571.00	\$ 12,285.00	\$ -
<b>Federal Funds:</b>			
(Direct Costs)	\$ 122,227.00	\$ 61,114.00	\$ -
(Statewide Indirect)	\$ -	\$ -	\$ -
(Department Indirect)	\$ 7,435.00	\$ 3,718.00	\$ -
<b>Other Funds:</b>			
(source)	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 154,233.00</b>	<b>\$ 77,117.00</b>	<b>\$ -</b>

Grant will be allocated to these appropriation expenditure accounts:	<u>Appropriation Nos.</u> <b>6140030000</b>	<u>Amounts</u> <b>All</b>
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**REC'D APR 10 2008**

11. Will grant monies be spent by one or more personal service contracts?

YES  NO

If YES, signature of appointing authority here indicates intent to follow current guidelines on bidding.

X 

12a. Please list any requested Limited Service positions:

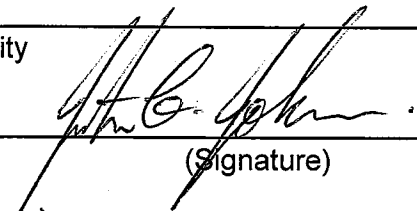
Titles	Number of Positions
	0
TOTAL	0

12b. Equipment and space for these positions:

Is presently available.  
 Can be obtained with available funds.

13. Signature of Appointing Authority

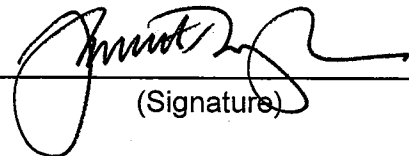
I certify that no funds have been expended or committed in anticipation of Joint Fiscal Committee approval of this grant.

  
(Signature)  
Deputy Commissioner  
(Title)

4/7/2008  
(Date)

14. Action by Governor:

Approved  
 Rejected

  
(Signature)

5/20/08  
(Date)

15. Secretary of Administration:

Request to JFO  
 Information to JFO

  
(Signature)

5/15/08  
(Date)


16. Action by Joint Fiscal Committee:

(Dates)

- Request to be placed on JFC agenda \_\_\_\_\_
- Approved (not placed on agenda in 30 days) \_\_\_\_\_
- Approved by JFC \_\_\_\_\_
- Rejected by JFC \_\_\_\_\_
- Approved by Legislature \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

	<b>U.S. ENVIRONMENTAL PROTECTION AGENCY</b>  <b>Grant Agreement</b>	<b>ASSISTANCE ID NO.</b>			<b>DATE OF AWARD</b> <i>12/13/06</i>	
		<b>PRG</b>	<b>DOC ID</b>	<b>AMEND#</b>		
		<b>SB - 97163701 - 0</b>			<b>MAILING DATE</b> <i>12/20/06</i>	
		<b>TYPE OF ACTION</b> New				<b>ACH#</b> 8105
<b>PAYMENT METHOD:</b> ASAP						

<b>RECIPIENT TYPE:</b> State	<b>Send Payment Request to:</b> US Environmental Protection Agency Las Vegas Finance Center P.O. BOX 98515 Las Vegas, Nevada 89193-8515
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<b>RECIPIENT:</b> Vermont D.E.C. 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401 EIN: 03-6000274	<b>PAYEE:</b> Vermont D.E.C. 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401
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<b>PROJECT MANAGER</b> Harold T. Garabedian 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401 E-Mail: Harold.Garabedian@state.vt.us Phone: 802-241-3849	<b>EPA PROJECT OFFICER</b> Halida Hatic 1 Congress Street, Suite 1100, CAQ Boston, MA 02114-2023 E-Mail: Phone: 617-918-1680	<b>EPA GRANT SPECIALIST</b> Janet Bartlett Grants Management Office, MGM E-Mail: Bartlett.Janet@epamail.epa.gov Phone: 617-918-1972
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<b>PROJECT TITLE AND DESCRIPTION</b> Clean School Bus Vermont Department of Conservation (VT DEC) will use funding to retrofit up to 25 school buses within Vermont school districts with advanced pollution control technology, including auxiliary power units, diesel oxidation catalysts and crankcase filters.
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<b>BUDGET PERIOD</b> 12/01/2006 - 11/30/2008	<b>PROJECT PERIOD</b> 12/01/2006 - 11/30/2008	<b>TOTAL BUDGET PERIOD COST</b> \$231,350.00	<b>TOTAL PROJECT PERIOD COST</b> \$231,350.00
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### NOTICE OF AWARD

Based on your application dated 11/01/2006, including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA), hereby awards \$194,494. EPA agrees to cost-share 84.07% of all approved budget period costs incurred, up to and not exceeding total federal funding of \$194,494. Such award may be terminated by EPA without further cause if the recipient fails to provide timely affirmation of the award by signing under the Affirmation of Award section and returning all pages of this agreement to the Grants Management Office listed below within 21 days after receipt, or any extension of time, as may be granted by EPA. This agreement is subject to applicable EPA statutory provisions. The applicable regulatory provisions are 40 CFR Chapter 1, Subchapter B, and all terms and conditions of this agreement and any attachments.

<b>ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)</b>	<b>AWARD APPROVAL OFFICE</b>
<b>ORGANIZATION / ADDRESS</b> EPA New England 1 Congress Street, Suite 1100  Boston, MA 02114-2023	<b>ORGANIZATION / ADDRESS</b> U.S. EPA, EPA New England  1 Congress Street, Suite 1100 Boston, MA 02114-2023

**THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>SIGNATURE OF AWARD OFFICIAL</b> <i>[Signature]</i>	<b>TYPED NAME AND TITLE</b> James T. Owens, III, Dir. Office of Administration and Resource Mgmt.	<b>DATE</b> <i>12/13/06</i>
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### AFFIRMATION OF AWARD

**BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION**

<b>SIGNATURE</b> <i>[Signature]</i>	<b>TYPED NAME AND TITLE</b> Jeffrey Wennberg, Commissioner	<b>DATE</b> <i>2/1/2007</i>
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# EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	\$	\$ 194,494	\$ 194,494
EPA In-Kind Amount	\$	\$	\$ 0
Unexpended Prior Year Balance	\$	\$	\$ 0
Other Federal Funds	\$	\$	\$ 0
Recipient Contribution	\$	\$ 36,856	\$ 36,856
State Contribution	\$	\$	\$ 0
Local Contribution	\$	\$	\$ 0
Other Contribution	\$	\$	\$ 0
Allowable Project Cost	\$ 0	\$ 231,350	\$ 231,350

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.036 - Clean School Bus USA	Department of the Interior Environment and Related Agencies Appropriations Act 2006 (Public Law 109-54)	40 CFR PART 31

Fiscal									
Site Name	DCN	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
	0CG002	2007	E4C	01L	101AG8E	41.83			194,494
									194,494



## Budget Summary Page

<b>Table A - Object Class Category (Non-construction)</b>	<b>Total Approved Allowable Budget Period Cost</b>
<b>1. Personnel</b>	\$39,593
<b>2. Fringe Benefits</b>	\$14,610
<b>3. Travel</b>	\$445
<b>4. Equipment</b>	\$141,894
<b>5. Supplies</b>	\$240
<b>6. Contractual</b>	\$20,545
<b>7. Construction</b>	\$0
<b>8. Other</b>	\$2,870
<b>9. Total Direct Charges</b>	\$220,197
<b>10. Indirect Costs: % Base</b>	\$11,153
<b>11. Total (Share: Recipient <u>15.93</u> % Federal <u>84.07</u> %.)</b>	\$231,350
<b>12. Total Approved Assistance Amount</b>	\$194,494
<b>13. Program Income</b>	\$0
<b>14. Total EPA Amount Awarded This Action</b>	\$194,494
<b>15. Total EPA Amount Awarded To Date</b>	\$194,494

Final Proposal with EPA edits

**Vermont Clean School Bus Initiative**

**Name of Project:** Vermont Clean School Bus Initiative (VCSBI)  
**Lead Organization:** Vermont Department of Environmental Conservation  
Air Pollution Control Division (APCD)  
Building 3 South  
103 South Main Street  
Waterbury, VT 05671-0402  
**Point of contact:** Harold Garabedian, Deputy Director APCD  
802-241-3849  
[harold.garabedian@state.vt.us](mailto:harold.garabedian@state.vt.us)  
**Funding Amount:** \$194,494  
**Matching Funds:** \$36,856  
**Project category:** Clean School Buses

**BRIEF PROJECT DESCRIPTION**

**ABSTRACT** This grant proposal requested \$282,600 and was awarded \$194,494 from EPA's Clean School Bus USA program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. The Vermont Clean School Bus Initiative will reduce school bus diesel emissions, improve school bus fuel efficiency, develop the marketing and outreach plan for school officials to specifically communicate details of the Initiative and where school fleet owners and decision-makers can obtain technical assistance to advance use of cleaner technologies and fuels.

Grant funds will accomplish the following: provide incentive funding to install EPA approved retrofit technologies on school buses within Vermont school districts; develop marketing, outreach and training opportunities about specific details of the Initiative and technical information about the benefits of the retrofit technologies and use of alternative fuels (to school officials, including school bus fleet and maintenance personnel and Vermont's fuel dealers); route optimization assessments; and reporting and sharing results via strategic communications by Initiative subgrantees and stakeholders to support and strengthen the network of school officials to achieve shared goals of reduced diesel emissions via a suite of technologies, fuels and idling reduction strategies. Through this project, emissions from the retrofitted buses will be reduced to the maximum degree that the technology allows, childhood exposure to unhealthy contaminants reduced, and the effectiveness of these will be demonstrated to a much larger and broader audience of school bus administrators throughout the state.

**GOAL** Reduce diesel emissions and exposure to children and adults of diesel exhaust from school buses. Educate the broader audience of school bus fleet administrator on the benefits of reduced emissions and reduced childhood exposure to school bus emissions.

**REGIONAL GEOGRAPHIC AREA**—State of Vermont, the selected school districts will be geographically distributed to benefit effected populations in rural, suburban and urban communities. The proposal is to select representative schools among several geographic locations representing small, medium and large school districts. In addition, selection of the school districts will be decided on at least two of the following criteria: percentage of population living at or below poverty; age of the school bus fleet; commitment by school district to participate and share results; and whether other idling and emissions reduction strategies will be adopted and implemented.

**PROJECT OUTPUTS**

- 20-25 School buses retrofitted with one to three EPA approved technologies (i.e., auxiliary heaters; crankcase ventilation and diesel oxidation catalysts)
- Reduced school bus emissions
- Reduced school bus fuel consumption/increased efficiency

## Final Proposal with EPA edits

- **Health benefits**—reduced childhood exposure to unhealthy and toxic air contaminants
- **Route optimization** assessment in pilot school district(s)—results to be shared with other Vermont schools
- **Educated users and suppliers** about approved and available technologies for reduced emissions and improved efficiency.
- **Institutionalized documentation and purchasing practices**

ANTICIPATED OUTCOMES of the project, including those described by Section

### MEASURING ENVIRONMENTAL RESULTS

The environmental results accrue from the use of EPA verified emission reduction technologies, and educating operators and school bus fleet administrators in merits of these technologies.

Only technologies verified by USEPA will be employed and these technologies are certified to reduce emission by 20 to 80%.

Once school bus administrators are knowledgeable about the threat that school bus emissions represents to developing school age children, there will be opportunities beyond this grant to facilitate emissions reductions. The education and outreach effort will be tracked by monitoring the number of events conducted, the number of attendees and following up on the received message.

### BUDGET OVERVIEW – (see budget detail in appendices)

	EPA
Vehicle Retrofit Hardware	136,894
Marketing Initiative; outreach, education, training, communications	20,545
Personnel	20,965
Other	16,090
<b>TOTAL</b>	<b>\$ 194,494</b>

**TRANSFERABILITY**—The results of this project (i.e., brief summary of project components and results) will be shared outside Vermont to the Northeast Energy Efficiency Partnership for dissemination to state High Performance Schools Initiatives throughout New England. Equally, Vermont schools will be made aware that they can earn two elective credits for policy and operations for high performance school status in accordance with Northeast High Performance School Protocol by NEEP. New England states are advancing High Performance Green Schools standards including Vermont.

The VCSBI seeks to reduce Vermont school bus emissions through the following strategy:

- Install EPA approved emission reduction technologies on Vermont school buses
- Support ongoing, statewide Breathe Better Vermont school bus emissions reductions efforts
- Document and report fleet and vehicle emissions reductions (i.e., number of school districts participating, number of older school buses retrofitted, changes in asthma rates before and after the retrofit, as available from the Department of Health and idling reduction strategies)
- Adapt and disseminate Initiative project information in multi-layered marketing campaign

**Project Description: For Clean School Bus proposals, clearly describe the proposed technology and implementation strategy.**

Five task areas are proposed to help achieve the above goal:

## Final Proposal with EPA edits

1. Install EPA-approved retrofit technology and ANR suggested priorities on Vermont buses/fleets to improve vehicle and fleet emissions.
2. Develop outreach and marketing program to educate partner school districts in the real world applications of using approved technologies and strengthen the clean technology and alternative fuels supply network in Vermont through increased demand.
  - a. Bring together partners and stakeholders to brainstorm and strategize on how to improve upon and expand the statewide *Breathe Better Vermont* initiative. The initiative is designed to help protect children and bus drivers from diesel school bus exhaust by encouraging schools to limit the amount of time buses idle their engines. Reduced exposure to diesel emissions requires a multi-pronged approach including commitment and responsibility at all levels and both technologies, clean fuels and behavior change working together.
  - b. Three focus group sessions are planned in first 18 months to develop and implement a rational and integrated plan to achieve quality transportation.
3. Report and document vehicle and fleet emissions reductions and determine most-effective mechanism(s) for reducing diesel emissions from school buses in Vermont.
4. Build institutional capacity among partners and stakeholders to adapt and disseminate information for school staff, administrators, and school boards to help break down the market barriers and accommodate demand for clean technologies and fuels through procurement and transportation contract practices.
  - a. Coordination will help clarify partner and stakeholder roles. This task will involve two or more work sessions among partners and stakeholders on how Vermont school transportation will realize short and long-term outcomes for cleaner fleets and behavior change.

### PROPOSAL NARRATIVE

#### b. Local or Regional Significance:

The Union of Concerned Scientists recently released its 2006 School Bus Pollution report card. While Vermont received good marks for the Breathe Better Vermont anti-idling campaign, our overall "Soot Pollution Grade" was C. The age of our statewide school bus fleet and a lack of funding for bus replacements, retrofits and cleaner fuels were identified as areas for improvement. The average age of a school bus is 9 years old. However, about half of Vermont's known school buses are more than 10 years old (see fleet description attachment).

Because of its rural nature and centralized school system, Vermont is heavily dependent on school buses for student transportation. According to data from the Department of Education, Vermont's school buses travel an estimated total of 13 million miles annually. Per capita, this is more than any state in the nation. Due to the high VMT of school buses, school children have the potential to be exposed to unacceptably high amounts of diesel exhaust. School bus emissions put students, drivers, and general school populations at considerable risk.

Idling is a major source of air pollution and presents a health risk to our community as it aggravates cardiovascular and respiratory conditions including asthma, emphysema, and bronchitis and particularly affects older adults, children, and people with heart and lung conditions. Idling also wastes precious energy resources. Diesel exhaust is identified by the EPA as "likely to be carcinogenic to humans by inhalation from environmental exposures" and by IARC as "probably carcinogenic to humans". The noncancer risks of diesel exhaust include: pulmonary inflammation and histopathology. Furthermore, children may be particularly susceptible to the harmful effects of diesel exhaust due to their increased breathing rates and developing lungs. Asthma rates are on the rise in Vermont, stressing the importance of minimizing children's exposure to the harmful effects of diesel exhaust and presenting exposure challenges in and outside school buildings. In several cases, indoor air quality is contaminated by diesel exhaust from idling buses and vehicles in student drop-off areas.

Vermont's air quality is approaching unhealthy levels for ozone, NOx and PM2.5. Though the state air quality is currently in attainment, state experts are concerned about local air quality and the rise in greenhouse gas emissions associated with increased transportation emissions. Furthermore, motor vehicles are the largest

## Final Proposal with EPA edits

source (65 percent) of ozone-forming toxic and carcinogenic pollutants in Vermont. Motor vehicles emit about 2 million pounds of those carcinogenic compounds such as benzene, formaldehyde and 1,3-Butadiene. The idling of vehicles contributes heavily to these high pollutant levels.

With help from the Environmental Protection Agency, the Initiative stakeholders will work together on a public education initiative "Breathe Better Vermont" to ensure that the schools are knowledgeable of the adverse impacts of idling and to develop and implement a plan for enforcement, beginning in Burlington.

### c. Stakeholder Involvement/Impacts:

Vermont Department of Environmental Conservation—Fiduciary entity. Will be the project lead, responsible for quarterly reports and deliverables. In addition, DEC will be responsible for providing technical assistance to schools for retrofit purchases, idling reduction strategies and procurement for school bus retrofits. VT DEC will contract with the following partners/subgrantees to procure and supply schools with clean technologies and fuels.

#### Partners (Subgrantees)

- Alliance for Climate Action, 10% Challenge ACA will help develop and implement the marketing and outreach components. In addition, ACA will help organize focus groups, stakeholders and others to accomplish short and long-term outcomes.
- City of Burlington School District—Will help transfer results of their idling reduction efforts, policies, experiences including health benefits in particular and use of retrofit technologies. In addition, the District will advance clean fuels and technologies in its three buses as well as inform the initiative of environmental and health successes to share with other Vermont Schools.
- Vermont Biofuels Association - May provide technical assistance and facilitation in the design and implementation of outreach and marketing component.
- Vermont Superintendents Association— Will help in the selection process of the participating school districts and will assist in communications to participating superintendents and beyond regarding project successes.
- Participating School Districts—Will be responsible for selecting buses for retrofit upgrades and/or use of alternative fuels and for assisting the partner team in tracking reporting and communicating.

Active Stakeholders—the following active stakeholders will bring their experience to the table in guiding the process and communications of the Clean School Bus Initiative to respective constituents.

- Vermont Principal's Association
- Vermont School Boards Insurance Trust
- Vermont High Performance Schools Initiative
- Vermont Department of Health
- American Lung Association of Vermont
- Vermont Clean Cities Program

The Agency of Natural Resources (ANR) will act as fiduciary and project lead. ANR will also provide technical assistance to schools and stakeholders ANR will contribute marketing assistance and outreach and education.

The Alliance for Climate Action will assist in project coordination for the Initiative. Communications, focus groups, and coordination of work tasks for partners, stakeholders, suppliers and end users. The Alliance will build upon its current network as coordinator of the Vermont High Performance Schools Initiative and help strengthen the network of the Clean School Bus Initiative.

The Vermont Superintendents Association School Energy Management Program and the Vermont School Boards Insurance Trust will help select the participating school districts and will continue to communicate to the school community as a whole on the grant findings and progress.

## Final Proposal with EPA edits

The Vermont Department of Health coordinates the ENVISION program in Vermont. The Vermont Clean School Bus Initiative may be able to partner with this effort to help schools achieve our shared goals of healthy indoor environmental quality and adoption of policies that lead to reduced diesel emissions, idling, use of alternative fuels and clean technologies.

### d. PROJECT GOALS and OUTPUTS

This project will reduce exposure of school-age children to unhealthful and toxic air contaminants. Technologies will be employed that will allow school bus operators to discontinue the current practice of idling buses to warm the engine and cabin to ensure safe operation and clear windshield during winter operations. At the same time overall fuel consumption will be reduced. Additionally technologies will be employed that will reduce in-cabin concentration of toxic and unhealthy air contaminants that children are exposed to.

#### Priority Technologies for Vermont School Buses/Fleets

EPA Approved Technology	Estimated Cost per	After Market Cost	VT Priority
Auxiliary Heater	\$1,500	\$2,500 -- 3,500	1
Crankcase Ventilation	500		2
Diesel Oxidation Catalysts (DOC)	1,000	2500 - 3000	3

### e. PROJECT BENEFITS /OUTCOMES:

#### OUTCOMES

- Retrofit Vermont school buses with cleaner technologies in several school districts across Vermont
- Discontinue idling as a strategy for starting buses on buses retrofitted with auxiliary heaters
- All VT schools will be informed of project. Distribute tools to assist school administrators and school boards in developing policy and making purchases that continue to achieve school bus emissions reductions

**PROJECT OUTREACH AND COMMUNICATION PLAN:** ANR will contract with the Alliance for Climate Action for project coordination. Initiative partners will form the working group to guide all aspects of the project.

#### Approach to Marketing, Networking, Training and Communications

1. Gather partners and stakeholders to: a) hold initial focus group discussion on barriers, needs and opportunities to inform the development of marketing and outreach plan; and b) develop and refine common messaging.
2. Hold a Press Conference to kick-off the Clean School Bus Initiative with invited guests to report on local experiences.
3. Gather brief information sheets of existing experiences with clean fuels and technologies;
4. Collect and develop easy to use marketing and resource materials for posting on Initiative partners' and stakeholders' websites. Distribution to schools will occur via existing channels of communication (i.e., Vermont Superintendents Association, Department of Education, Vermont Principal's Association; and other interested networks;
5. Equip service providers in schools with training and technical and resource information (i.e., VSA SEMP; VSBIT; Sustainable Schools Project, Safe Routes to Schools, ENVISION.
6. Collaborate with SEMP to select partner districts for assistance (both financial and resources);
7. Coordinate suppliers and end users for EPA/ANR preferred technologies, alternative fuels and shared experiences. Collaboration with state procurement process for preferred technologies. Explore adding technologies to State approved products list.
8. In cooperation with Envision make presentations at annual planned meetings of school custodians/facility managers (July 22-23, 2007), superintendents, school board officials, business managers and school nurses.
9. Conduct quarterly partner/stakeholder meetings.

## Final Proposal with EPA edits

10. Develop and coordinate accessible reporting and sharing of results via existing communication networks and website postings and per EPA agreement requirements.
11. Recognize and award school districts for their efforts to implement a multi-layered approach to reducing diesel emissions exposure to children, faculty and staff on and off the school site.

### PROJECT TIMELINE and MILESTONES

This project will be completed within a 24-month period with reporting of successes to continue beyond this period as outreach and recognition of successes are institutionalized into existing education, outreach and recognition efforts (i.e., annual Governors Award for School Environmental Plans and Implementation).

Month 1—Stakeholders meet, focus group work session, marketing and resource materials developed. Identify school districts with appropriate aged vehicles for maximum benefit from retrofit technologies. 1 – 2 partner school districts approached and confirmed.

Month 2 - 1 – 2 additional partner school districts selected.

Month 3—Press Conference—Initiative Kick-off. Outreach to schools scheduled. Network established, list-serv and webpage of resources and selected local experiences posted. Remaining partner schools confirmed.

Month 6—Focus group two—work session, training for partners and stakeholders, marketing and outreach to schools begins, continues for six months, technologies and clean fuels ordered.

Month 12—Installation of technologies. Stakeholders meeting. Circuit-rider to visit schools, provide support and follow-up as necessary.

Month 18—Collect results, synthesize and report. Refinement of resource materials (if needed). Develop final reporting for transfer statewide and beyond to New England via Northeast Energy Efficiency Partnerships.

Month 24—Report project results to partners, Vermont's school community and EPA. Communications will continue as opportunities to present to selected school official audiences and through partner email, newsletter, website communications.

### g. ENVIRONMENTAL RESULTS and PAST PERFORMANCE

#### Programmatic Capability

The Vermont Air Pollution Control Division has been a grant recipient under Section 105 of the Clean Air Act for over thirty years. Its record of performance in successfully completing projects and reporting conditions has been recognized by EPA's Office of Air Quality, Planning and Standards.

The Alliance for Climate Action (ACA), has managed several federal funded projects to help encourage energy savings, waste reduction and greenhouse gas emissions reductions. The following is a partial list of funding for selected project initiatives. Final reports to both EPA and DOE are available upon request.

ACA, with several partners, successfully advanced a no-idling campaign in Chittenden County schools. This initiative has been a catalyst to others including the State of Vermont and businesses to implement no-idling policies in schools, institutions and businesses. The Burlington School District and more recently, the City of Burlington passed policies to encourage reduced idling at public facilities and by City employees.

The Vermont Biofuels Association (VBA), a not-for-profit corporation, was founded in late 2003 and has been working on several projects to help build a statewide commercial biofuels network. These projects have received over \$660,000 in federal, state and private funding, as well as, participation from such diverse sources as U.S. Department of Energy, VT Department of Public Service, Vermont Sustainable Jobs Fund, Office of Senator Patrick Leahy and VT Fuel Dealers

## Final Proposal with EPA edits

Association.

### BIOGRAPHIES

**Harold Garabedian** has over twenty years of experience in the air pollution control field conducting and manager projects and grants, all well as-presenting and publishing on matters of air pollution control.

**Netaka White** is a co-founder and Executive Director of the VBA and provides technical and marketing support to the Vermont Clean School Bus Initiative. He has served as Director of the VBA since January 2004 and also does private consulting and marketing for businesses and renewable energy groups. He also serves on the Board of Renewable Energy Vermont, the Vermont Council on Rural Development's Energy Council and the Vermont Sustainable Agriculture Council.

**Debra Sachs** is the Director of the Alliance for Climate Action and will serve as the project coordinator for the Clean School Bus Initiative. Ms.Sachs helps communities understand why they should care about energy efficiency, renewable energy, clean technologies, conservation, waste reduction and use of transportation alternatives. Ms. Sachs has helped advance planning and sustainable development projects that benefit Vermont communities for the last fifteen years. She has facilitated several workshops and community discussions on critical sustainable development. Ms. Sachs manages the ACA, provides staff support to advance its mission with assistance from federal, state and local and foundation funding sources. She manages the day-to-day activities of the 10% Challenge office, including staff and interns who assist in implementing the mission of the ACA. She is the statewide coordinator for the Vermont High Performance Schools Initiative. She oversees communications and special project development and implementation.

### Reporting

Quarterly reports are considered Progress Status reports and will provide the progress of project including a listing of the vehicles or engines which have been retrofitted or replaced (make, model, year, EPA engine family, type of equipment or service), the number of miles or hours those units have been in service since the retrofits occurred, number of miles or hours those units have been in service during the quarter, date that retrofit technology was introduced for each specific unit, fuel consumption, maintenance problems, maintenance performed, reception by driver(s), progress on original time line for the project and any other problems or concerns.

In addition to the quarterly status reports that track the progress of the retrofit project, a final project case study report will be written that will summarize the successes and lessons learned for the entire project. Below is an outline of what will be in such a report. This is a list of the minimum information for the Project Case Study Report and will be supplemented with additional information which is relevant to the project that would be useful for others.

1. Description of Project
2. Project Partners & Goals
3. Launch Events/Press/Publicity
4. Technologies
  - General and specific including parts and suppliers
5. Vehicles/Engines Involved
  - Specific descriptions of all vehicles and engines
6. Miles Driven/Engine Usage/Fuel Consumption
7. Emissions Reductions, Cost Analyses, and Fuel Costs
8. Lessons Learned
9. Contacts for Further Information







**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

To: Joint Fiscal Committee Members  
From: Nathan Lavery, Fiscal Analyst *N*  
Date: May 30, 2008  
Subject: Grant Request

Enclosed please find one (1) request which the Joint Fiscal Office recently received from the Administration:

**JFO #2326** — \$194,494 grant from the US Environmental Protection Agency. These grant funds will be used for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This program will reduce school bus emissions, improve school bus fuel efficiency, and develop an outreach plan for school officials.

*[JFO received 05/29/08]*

The Joint Fiscal Office has reviewed this submission and determined that all appropriate forms bearing the necessary approvals are in order.

In accordance with the procedures for processing such requests, we ask you to review the enclosed and notify the Joint Fiscal Office (Nathan Lavery at 802/828-1488; [nlavery@leg.state.vt.us](mailto:nlavery@leg.state.vt.us) or Stephen Klein at 802/828-5769; [sklein@leg.state.vt.us](mailto:sklein@leg.state.vt.us)) if you have questions or would like this item held for legislative review. Unless we hear from you to the contrary by June 13 we will assume that you agree to consider as final the Governor's acceptance of this request.

cc: James Reardon, Commissioner  
Linda Morse, Administrative Assistant  
George Crombie, Secretary  
Laura Pelosi, Commissioner

JFO#  
2326

STATE OF VERMONT  
GRANT ACCEPTANCE FORM

GRANT SUMMARY: Title: Cooperative Agreement between VTFPR and US Fish and Wildlife

This is a request for approval of a grant from US EPA for \$194,494.00 for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This initiative will reduce school bus emissions, improve school bus fuel efficiency and develop the outreach plan for school officials to communicate details of the initiative and where fleet owners can obtain technical assistance.

DATE: May 7, 2008

DEPARTMENT: Environmental Conservation (ANR)

GRANT / DONATION: \$194,494.00

FEDERAL CATALOG No.: 66.036

GRANTOR / DONOR: US EPA - New England Region 1

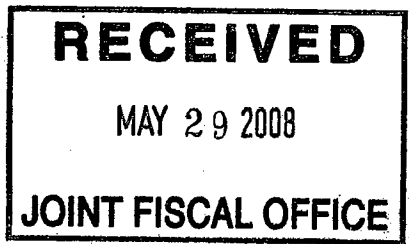
AMOUNT / VALUE: \$194,494.00

POSITIONS REQUESTED: None

GRANT PERIOD: 12/01/2006 to 11/30/2008

COMMENTS: See attachments.

DEPARTMENT OF FINANCE AND MANAGEMENT: (INITIAL) gpm 5/12/08  
SECRETARY OF ADMINISTRATION (INITIAL) rpm 5/12/08  
SENT TO JOINT FISCAL OFFICE: DATE: 5/22/08



**STATE of VERMONT**  
**AGENCY of NATURAL RESOURCES**  
**DEPARTMENT of ENVIRONMENTAL CONSERVATION**  
~ COMMISSIONER'S OFFICE ~

**MEMORANDUM**

**Tel: (802) 241-3810**

**Fax: (802) 244-5141**

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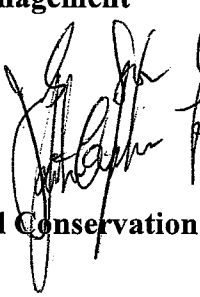
**TO:** Jason Aronowitz, Budget Analyst  
Department of Finance & Management

**THRU:** George Crombie, Secretary  
Agency of Natural Resources

**FROM:** Laura Pelosi, Commissioner  
Department of Environmental Conservation

**DATE:** April 7, 2008

**SUBJECT:** AA-1 request



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Attached is a request for a grant acceptance (AA-1) for a grant from US Environmental Protection Agency for the Clean School Bus program. All relevant grant documentation has been attached.

If you have any questions or are in need of further information, please do not hesitate to contact me. Thank you for your attention in this matter.

**Cc: Steve Chadwick, ANR**  
**Joanna Raycraft, DEC**

STATE OF VERMONT  
REQUEST FOR GRANT ACCEPTANCE  
(use additional sheets as needed)

FORM AA-1  
(Rev. 9-90)

1. Agency: **Agency of Natural Resources**
2. Department: **Department of Environmental Conservation**
3. Program: **Clean School Bus USA**
4. Legal Title of Grant: **Vermont Clean School Bus Project**
  
5. Federal Catalog No.: **66.036**
6. Grantor and Office Address: **U.S. EPA - New England, Region I  
1 Congress Street, Suite 1100  
Boston MA 02114-2023**
7. Grant Period: **2 years** From: **12/01/2006** To: **11/30/2008**

8. Purpose of Grant (attach additional sheets if needed):  
**Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This initiative will reduce school bus emissions, improve school bus fuel efficiency and develop the outreach plan for school officials to communicate details of the initiative and where fleet owners can obtain technical assistance.**

9. Impact on Existing Programs if Grant is not Accepted:  
**This grant does not directly affect existing programs but will impact future EPA funding for the mobile source air quality program.**

10. Budget Information:	(1st State FY) <u>FY 2008</u>	(2nd State FY) <u>FY 2009</u>	(3rd State FY) <u>FY 2010</u>
<b>EXPENDITURES:</b>			
Personal Services	\$ 36,135.00	\$ 18,068.00	\$ -
Operating Expenses	\$ 2,370.00	\$ 1,185.00	\$ -
Other	\$ 108,293.00	\$ 54,146.00	\$ -
<b>TOTAL</b>	<b>\$ 146,798.00</b>	<b>\$ 73,399.00</b>	<b>\$ -</b>
<b>REVENUES:</b>			
State Funds:			
Cash	\$ -	\$ -	\$ -
In-Kind	\$ 24,571.00	\$ 12,285.00	\$ -
Federal Funds:			
(Direct Costs)	\$ 122,227.00	\$ 61,114.00	\$ -
(Statewide Indirect)	\$ -	\$ -	\$ -
(Department Indirect)	\$ 7,435.00	\$ 3,718.00	\$ -
Other Funds:			
(source)	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 154,233.00</b>	<b>\$ 77,117.00</b>	<b>\$ -</b>

Grant will be	<u>Appropriation Nos.</u>	<u>Amounts</u>
allocated to these appropriation expenditure accounts:	<b>6140030000</b>	<b>All</b>

**REC'D APR 10 2008**

11. Will grant monies be spent by one or more personal service contracts?

YES  NO

If YES, signature of appointing authority here indicates intent to follow current guidelines on bidding.

X 

12a. Please list any requested Limited Service positions:

Titles	Number of Positions
	0
TOTAL	0

12b. Equipment and space for these positions:

Is presently available.  
 Can be obtained with available funds.

13. Signature of Appointing Authority

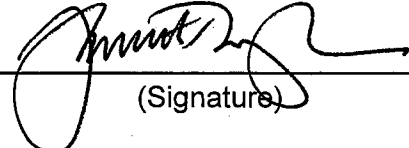
I certify that no funds have been expended or committed in anticipation of Joint Fiscal Committee approval of this grant.

  
(Signature)  
Deputy Commissioner  
(Title)

4/7/2008  
(Date)

14. Action by Governor:

Approved  
 Rejected

  
(Signature)

5/20/08  
(Date)

15. Secretary of Administration:

Request to JFO  
 Information to JFO

  
(Signature)

5/15/08  
(Date)


16. Action by Joint Fiscal Committee:

(Dates)

- Request to be placed on JFC agenda \_\_\_\_\_
- Approved (not placed on agenda in 30 days) \_\_\_\_\_
- Approved by JFC \_\_\_\_\_
- Rejected by JFC \_\_\_\_\_
- Approved by Legislature \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

	<b>U.S. ENVIRONMENTAL PROTECTION AGENCY</b>  <b>Grant Agreement</b>	<b>ASSISTANCE ID NO.</b>			<b>DATE OF AWARD</b> 12/13/06	
		<b>PRG</b>	<b>DOC ID</b>	<b>AMEND#</b>		
		SB - 97163701 - 0			<b>MAILING DATE</b> 12/20/06	
		<b>TYPE OF ACTION</b> New				
<b>PAYMENT METHOD:</b> ASAP			<b>ACH#</b> 8105			

<b>RECIPIENT TYPE:</b> State	<b>Send Payment Request to:</b> US Environmental Protection Agency Las Vegas Finance Center P.O. BOX 98515 Las Vegas, Nevada 89193-8515
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<b>RECIPIENT:</b> Vermont D.E.C. 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401 EIN: 03-6000274	<b>PAYEE:</b> Vermont D.E.C. 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401
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<b>PROJECT MANAGER</b> Harold T. Garabedian 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401 E-Mail: Harold.Garabedian@state.vt.us Phone: 802-241-3849	<b>EPA PROJECT OFFICER</b> Halida Hatic 1 Congress Street, Suite 1100, CAQ Boston, MA 02114-2023 E-Mail: Phone: 617-918-1680	<b>EPA GRANT SPECIALIST</b> Janet Bartlett Grants Management Office, MGM E-Mail: Bartlett.Janet@epamail.epa.gov Phone: 617-918-1972
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<b>PROJECT TITLE AND DESCRIPTION</b> Clean School Bus Vermont Department of Conservation (VT DEC) will use funding to retrofit up to 25 school buses within Vermont school districts with advanced pollution control technology, including auxiliary power units, diesel oxidation catalysts and crankcase filters.
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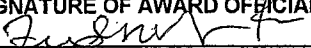
<b>BUDGET PERIOD</b> 12/01/2006 - 11/30/2008	<b>PROJECT PERIOD</b> 12/01/2006 - 11/30/2008	<b>TOTAL BUDGET PERIOD COST</b> \$231,350.00	<b>TOTAL PROJECT PERIOD COST</b> \$231,350.00
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### NOTICE OF AWARD

Based on your application dated 11/01/2006, including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA), hereby awards \$194,494. EPA agrees to cost-share 84.07% of all approved budget period costs incurred, up to and not exceeding total federal funding of \$194,494. Such award may be terminated by EPA without further cause if the recipient fails to provide timely affirmation of the award by signing under the Affirmation of Award section and returning all pages of this agreement to the Grants Management Office listed below within 21 days after receipt, or any extension of time, as may be granted by EPA. This agreement is subject to applicable EPA statutory provisions. The applicable regulatory provisions are 40 CFR Chapter 1, Subchapter B, and all terms and conditions of this agreement and any attachments.

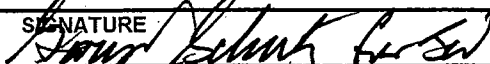
<b>ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)</b>	<b>AWARD APPROVAL OFFICE</b>
<b>ORGANIZATION / ADDRESS</b> EPA New England 1 Congress Street, Suite 1100  Boston, MA 02114-2023	<b>ORGANIZATION / ADDRESS</b> U.S. EPA, EPA New England  1 Congress Street, Suite 1100 Boston, MA 02114-2023

**THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>SIGNATURE OF AWARD OFFICIAL</b> 	<b>TYPED NAME AND TITLE</b> James T. Owens, III, Dir. Office of Administration and Resource Mgmt.	<b>DATE</b> 12/13/06
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### AFFIRMATION OF AWARD

BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION

<b>SIGNATURE</b> 	<b>TYPED NAME AND TITLE</b> Jeffrey Wennberg, Commissioner	<b>DATE</b> 2 Jan 07
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# EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	\$	\$ 194,494	\$ 194,494
EPA In-Kind Amount	\$	\$	\$ 0
Unexpended Prior Year Balance	\$	\$	\$ 0
Other Federal Funds	\$	\$	\$ 0
Recipient Contribution	\$	\$ 36,856	\$ 36,856
State Contribution	\$	\$	\$ 0
Local Contribution	\$	\$	\$ 0
Other Contribution	\$	\$	\$ 0
Allowable Project Cost	\$ 0	\$ 231,350	\$ 231,350

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.036 - Clean School Bus USA	Department of the Interior Environment and Related Agencies Appropriations Act 2006 (Public Law 109-54)	40 CFR PART 31

Fiscal									
Site Name	DCN	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
	0CG002	2007	E4C	01L	101AG8E	41.83			194,494
									194,494



## Budget Summary Page

<b>Table A - Object Class Category (Non-construction)</b>	<b>Total Approved Allowable Budget Period Cost</b>
<b>1. Personnel</b>	\$39,593
<b>2. Fringe Benefits</b>	\$14,610
<b>3. Travel</b>	\$445
<b>4. Equipment</b>	\$141,894
<b>5. Supplies</b>	\$240
<b>6. Contractual</b>	\$20,545
<b>7. Construction</b>	\$0
<b>8. Other</b>	\$2,870
<b>9. Total Direct Charges</b>	\$220,197
<b>10. Indirect Costs: % Base</b>	\$11,153
<b>11. Total (Share: Recipient <u>15.93</u> % Federal <u>84.07</u> %.)</b>	\$231,350
<b>12. Total Approved Assistance Amount</b>	\$194,494
<b>13. Program Income</b>	\$0
<b>14. Total EPA Amount Awarded This Action</b>	\$194,494
<b>15. Total EPA Amount Awarded To Date</b>	\$194,494

Final Proposal with EPA edits

Vermont Clean School Bus Initiative

**Name of Project:** Vermont Clean School Bus Initiative (VCSBI)

**Lead Organization:** Vermont Department of Environmental Conservation  
Air Pollution Control Division (APCD)  
Building 3 South  
103 South Main Street  
Waterbury, VT 05671-0402

**Point of contact:** Harold Garabedian, Deputy Director APCD  
802-241-3849  
[harold.garabedian@state.vt.us](mailto:harold.garabedian@state.vt.us)

**Funding Amount:** \$194,494  
**Matching Funds:** \$36,856  
**Project category:** Clean School Buses

**BRIEF PROJECT DESCRIPTION**

**ABSTRACT** This grant proposal requested \$282,600 and was awarded \$194,494 from EPA's Clean School Bus USA program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. The Vermont Clean School Bus Initiative will reduce school bus diesel emissions, improve school bus fuel efficiency, develop the marketing and outreach plan for school officials to specifically communicate details of the Initiative and where school fleet owners and decision-makers can obtain technical assistance to advance use of cleaner technologies and fuels.

Grant funds will accomplish the following: provide incentive funding to install EPA approved retrofit technologies on school buses within Vermont school districts; develop marketing, outreach and training opportunities about specific details of the Initiative and technical information about the benefits of the retrofit technologies and use of alternative fuels (to school officials, including school bus fleet and maintenance personnel and Vermont's fuel dealers); route optimization assessments; and reporting and sharing results via strategic communications by Initiative subgrantees and stakeholders to support and strengthen the network of school officials to achieve shared goals of reduced diesel emissions via a suite of technologies, fuels and idling reduction strategies. Through this project, emissions from the retrofitted buses will be reduced to the maximum degree that the technology allows, childhood exposure to unhealthy contaminants reduced, and the effectiveness of these will be demonstrated to a much larger and broader audience of school bus administrators throughout the state.

**GOAL** Reduce diesel emissions and exposure to children and adults of diesel exhaust from school buses. Educate the broader audience of school bus fleet administrator on the benefits of reduced emissions and reduced childhood exposure to school bus emissions.

**REGIONAL GEOGRAPHIC AREA**—State of Vermont, the selected school districts will be geographically distributed to benefit effected populations in rural, suburban and urban communities. The proposal is to select representative schools among several geographic locations representing small, medium and large school districts. In addition, selection of the school districts will be decided on at least two of the following criteria: percentage of population living at or below poverty; age of the school bus fleet; commitment by school district to participate and share results; and whether other idling and emissions reduction strategies will be adopted and implemented.

**PROJECT OUTPUTS**

- 20-25 School buses retrofitted with one to three EPA approved technologies (i.e., auxiliary heaters; crankcase ventilation and diesel oxidation catalysts).
- Reduced school bus emissions
- Reduced school bus fuel consumption/increased efficiency.

## Final Proposal with Attachments

- Health benefits—reduced childhood exposure to unhealthful and toxic air contaminants
- Route optimization assessment in pilot school district(s)—results to be shared with other Vermont schools
- Educated users and suppliers about approved and available technologies for reduced emissions and improved efficiency.
- Institutionalized documentation and purchasing practices

ANTICIPATED OUTCOMES of the project, including those described by Section

### MEASURING ENVIRONMENTAL RESULTS

The environmental results accrue from the use of EPA verified emission reduction technologies, and educating operators and school bus fleet administrators in merits of these technologies.

Only technologies verified by USEPA will be employed and these technologies are certified to reduce emission by 20 to 80%.

Once school bus administrators are knowledgeable about the threat that school bus emissions represents to developing school age children, there will be opportunities beyond this grant to facilitate emissions reductions. The education and outreach effort will be tracked by monitoring the number of events conducted, the number of attendees and following up on the received message.

**BUDGET OVERVIEW** – (see budget detail in appendices)

	EPA
Vehicle Retrofit Hardware	136,894
Marketing Initiative, outreach, education, training, communications	20,545
Personnel	20,965
Other	16,090
<b>TOTAL</b>	<b>\$ 194,494</b>

**TRANSFERABILITY**—The results of this project (i.e., brief summary of project components and results) will be shared outside Vermont to the Northeast Energy Efficiency Partnership for dissemination to state High Performance Schools Initiatives throughout New England. Equally, Vermont schools will be made aware that they can earn two elective credits for policy and operations for high performance school status in accordance with Northeast High Performance School Protocol by NEEP. New England states are advancing High Performance Green Schools standards including Vermont.

The VCSBI seeks to reduce Vermont school bus emissions through the following strategy:

- Install EPA approved emission reduction technologies on Vermont school buses
- Support ongoing, statewide Breathe Better Vermont school bus emissions reductions efforts
- Document and report fleet and vehicle emissions reductions (i.e., number of school districts participating, number of older school buses retrofitted, changes in asthma rates before and after the retrofit, as available from the Department of Health and idling reduction strategies)
- Adapt and disseminate Initiative project information in multi-layered marketing campaign

**Project Description:** For Clean School Bus proposals, clearly describe the proposed technology and implementation strategy.

Five task areas are proposed to help achieve the above goal:

## Final Proposal with EPA edits

1. Install EPA-approved retrofit technology and ANR suggested priorities on Vermont buses/fleets to improve vehicle and fleet emissions.
2. Develop outreach and marketing program to educate partner school districts in the real world applications of using approved technologies and strengthen the clean technology and alternative fuels supply network in Vermont through increased demand.
  - a. Bring together partners and stakeholders to brainstorm and strategize on how to improve upon and expand the statewide *Breathe Better Vermont* initiative. The initiative is designed to help protect children and bus drivers from diesel school bus exhaust by encouraging schools to limit the amount of time buses idle their engines. Reduced exposure to diesel emissions requires a multi-pronged approach including commitment and responsibility at all levels and both technologies, clean fuels and behavior change working together.
  - b. Three focus group sessions are planned in first 18 months to develop and implement a rational and integrated plan to achieve quality transportation.
3. Report and document vehicle and fleet emissions reductions and determine most effective mechanism(s) for reducing diesel emissions from school buses in Vermont.
4. Build institutional capacity among partners and stakeholders to adapt and disseminate information for school staff, administrators, and school boards to help break down the market barriers and accommodate demand for clean technologies and fuels through procurement and transportation contract practices.
  - a. Coordination will help clarify partner and stakeholder roles. This task will involve two or more work sessions among partners and stakeholders on how Vermont school transportation will realize short and long-term outcomes for cleaner fleets and behavior change.

### PROPOSAL NARRATIVE

#### b. Local or Regional Significance:

The Union of Concerned Scientists recently released its 2006 School Bus Pollution report card. While Vermont received good marks for the Breathe Better Vermont anti-idling campaign, our overall "Soot Pollution Grade" was C. The age of our statewide school bus fleet and a lack of funding for bus replacements, retrofits and cleaner fuels were identified as areas for improvement. The average age of a school bus is 9 years old. However, about half of Vermont's known school buses are more than 10 years old (see fleet description attachment).

Because of its rural nature and centralized school system, Vermont is heavily dependent on school buses for student transportation. According to data from the Department of Education, Vermont's school buses travel an estimated total of 13 million miles annually. Per capita, this is more than any state in the nation. Due to the high VMT of school buses, school children have the potential to be exposed to unacceptably high amounts of diesel exhaust. School bus emissions put students, drivers, and general school populations at considerable risk.

Idling is a major source of air pollution and presents a health risk to our community as it aggravates cardiovascular and respiratory conditions including asthma, emphysema, and bronchitis and particularly affects older adults, children, and people with heart and lung conditions. Idling also wastes precious energy resources. Diesel exhaust is identified by the EPA as "likely to be carcinogenic to humans by inhalation from environmental exposures" and by IARC as "probably carcinogenic to humans". The noncancer risks of diesel exhaust include: pulmonary inflammation and histopathology. Furthermore, children may be particularly susceptible to the harmful effects of diesel exhaust due to their increased breathing rates and developing lungs. Asthma rates are on the rise in Vermont, stressing the importance of minimizing children's exposure to the harmful effects of diesel exhaust and presenting exposure challenges in and outside school buildings. In several cases, indoor air quality is contaminated by diesel exhaust from idling buses and vehicles in student drop-off areas.

Vermont's air quality is approaching unhealthy levels for ozone, NOx and PM2.5. Though the state air quality is currently in attainment, state experts are concerned about local air quality and the rise in greenhouse gas emissions associated with increased transportation emissions. Furthermore, motor vehicles are the largest

## Final Proposal with EPA edits

source (65 percent) of ozone-forming toxic and carcinogenic pollutants in Vermont. Motor vehicles emit about 2 million pounds of those carcinogenic compounds such as benzene, formaldehyde and 1,3-Butadiene. The idling of vehicles contributes heavily to these high pollutant levels.

With help from the Environmental Protection Agency, the Initiative stakeholders will work together on a public education initiative "Breathe Better Vermont" to ensure that the schools are knowledgeable of the adverse impacts of idling and to develop and implement a plan for enforcement, beginning in Burlington.

### c. Stakeholder Involvement/Impacts:

Vermont Department of Environmental Conservation—Fiduciary entity. Will be the project lead, responsible for quarterly reports and deliverables. In addition, DEC will be responsible for providing technical assistance to schools for retrofit purchases, idling reduction strategies and procurement for school bus retrofits. VT DEC will contract with the following partners/subgrantees to procure and supply schools with clean technologies and fuels.

#### Partners (Subgrantees)

- Alliance for Climate Action, 10% Challenge ACA will help develop and implement the marketing and outreach components. In addition, ACA will help organize focus groups, stakeholders and others to accomplish short and long-term outcomes.
- City of Burlington School District—Will help transfer results of their idling reduction efforts, policies, experiences including health benefits in particular and use of retrofit technologies. In addition, the District will advance clean fuels and technologies in its three buses as well as inform the Initiative of environmental and health successes to share with other Vermont Schools.
- Vermont Biofuels Association - May provide technical assistance and facilitation in the design and implementation of outreach and marketing component.
- Vermont Superintendents Association—Will help in the selection process of the participating school districts and will assist in communications to participating superintendents and beyond regarding project successes.
- Participating School Districts—Will be responsible for selecting buses for retrofit upgrades and/or use of alternative fuels and for assisting the partner team in tracking reporting and communicating.

Active Stakeholders—the following active stakeholders will bring their experience to the table in guiding the process and communications of the Clean School Bus Initiative to respective constituents.

- Vermont Principal's Association
- Vermont School Boards Insurance Trust--
- Vermont High Performance Schools Initiative
- Vermont Department of Health
- American Lung Association of Vermont
- Vermont Clean Cities Program

The Agency of Natural Resources (ANR) will act as fiduciary and project lead. ANR will also provide technical assistance to schools and stakeholders ANR will contribute marketing assistance and outreach and education.

The Alliance for Climate Action will assist in project coordination for the Initiative. Communications, focus groups, and coordination of work tasks for partners, stakeholders, suppliers and end users. The Alliance will build upon its current network as coordinator of the Vermont High Performance Schools Initiative and help strengthen the network of the Clean School Bus Initiative.

The Vermont Superintendents Association School Energy Management Program and the Vermont School Boards Insurance Trust will help select the participating school districts and will continue to communicate to the school community as a whole on the grant findings and progress.

## Final Proposal with EPA edits

The Vermont Department of Health coordinates the ENVISION program in Vermont. The Vermont Clean School Bus Initiative may be able to partner with this effort to help schools achieve our shared goals of healthy indoor environmental quality and adoption of policies that lead to reduced diesel emissions, idling, use of alternative fuels and clean technologies.

### d. PROJECT GOALS and OUTPUTS

This project will reduce exposure of school-age children to unhealthful and toxic air contaminants. Technologies will be employed that will allow school bus operators to discontinue the current practice of idling buses to warm the engine and cabin to ensure safe operation and clear windshield during winter operations. At the same time overall fuel consumption will be reduced. Additionally technologies will be employed that will reduce in-cabin concentration of toxic and unhealthy air contaminants that children are exposed to.

#### Priority Technologies for Vermont School Buses/Fleets

EPA Approved Technology	Estimated Cost per	After Market Cost	VT Priority
Auxiliary Heater	\$1,500	\$2,500 - 3,500	1
Crankcase Ventilation	500		2
Diesel Oxidation Catalysts (DOC)	1,000	2500 - 3000	3

### e. PROJECT BENEFITS /OUTCOMES:

#### OUTCOMES

- Retrofit Vermont school buses with cleaner technologies in several school districts across Vermont
- Discontinue idling as a strategy for starting buses on buses retrofitted with auxiliary heaters
- All VT schools will be informed of project. Distribute tools to assist school administrators and school boards in developing policy and making purchases that continue to achieve school bus emissions reductions

**PROJECT OUTREACH AND COMMUNICATION PLAN:** ANR will contract with the Alliance for Climate Action for project coordination. Initiative partners will form the working group to guide all aspects of the project.

#### Approach to Marketing, Networking, Training and Communications

1. Gather partners and stakeholders to: a) hold initial focus group discussion on barriers, needs and opportunities to inform the development of marketing and outreach plan; and b) develop and refine common messaging.
2. Hold a Press Conference to kick-off the Clean School Bus Initiative with invited guests to report on local experiences.
3. Gather brief information sheets of existing experiences with clean fuels and technologies;
4. Collect and develop easy to use marketing and resource materials for posting on Initiative partners' and stakeholders' websites. Distribution to schools will occur via existing channels of communication (i.e., Vermont Superintendents Association, Department of Education, Vermont Principal's Association; and other interested networks;
5. Equip service providers in schools with training and technical and resource information (i.e., VSA SEMP; VSBIT; Sustainable Schools Project, Safe Routes to Schools, ENVISION.
6. Collaborate with SEMP to select partner districts for assistance (both financial and resources);
7. Coordinate suppliers and end users for EPA/ANR preferred technologies, alternative fuels and shared experiences. Collaboration with state procurement process for preferred technologies. Explore adding technologies to State approved products list.
8. In cooperation with Envision make presentations at annual planned meetings of school custodians/facility managers (July 22-23, 2007), superintendents, school board officials, business managers and school nurses.
9. Conduct quarterly partner/stakeholder meetings.

## Final Proposal with EPA edits

10. Develop and coordinate accessible reporting and sharing of results via existing communication networks and website postings and per EPA agreement requirements.
11. Recognize and award school districts for their efforts to implement a multi-layered approach to reducing diesel emissions exposure to children, faculty and staff on and off the school site.

### PROJECT TIMELINE and MILESTONES

This project will be completed within a 24-month period with reporting of successes to continue beyond this period as outreach and recognition of successes are institutionalized into existing education, outreach and recognition efforts (i.e., annual Governors Award for School Environmental Plans and Implementation).

Month 1—Stakeholders meet, focus group work session, marketing and resource materials developed. Identify school districts with appropriate aged vehicles for maximum benefit from retrofit technologies. 1 – 2 partner school districts approached and confirmed.

Month 2 - 1 – 2 additional partner school districts selected.

Month 3—Press Conference—Initiative Kick-off. Outreach to schools scheduled. Network established, list-serv and webpage of resources and selected local experiences posted. Remaining partner schools confirmed.

Month 6—Focus group two-work session, training for partners and stakeholders, marketing and outreach to schools begins, continues for six months, technologies and clean fuels ordered.

Month 12—Installation of technologies. Stakeholders meeting. Circuit-rider to visit schools, provide support and follow-up as necessary.

Month 18—Collect results, synthesize and report. Refinement of resource materials (if needed). Develop final reporting for transfer statewide and beyond to New England via Northeast Energy Efficiency Partnerships.

Month 24—Report project results to partners, Vermont's school community and EPA. Communications will continue as opportunities to present to selected school official audiences and through partner email, newsletter, website communications.

### g. ENVIRONMENTAL RESULTS and PAST PERFORMANCE

#### Programmatic Capability

The Vermont Air Pollution Control Division has been a grant-recipient under Section 105 of the Clean Air Act for over thirty years. Its record of performance in successfully completing projects and reporting conditions has been recognized by EPA's Office of Air Quality, Planning and Standards.

The Alliance for Climate Action (ACA), has managed several federal funded projects to help encourage energy savings, waste reduction and greenhouse gas emissions reductions. The following is a partial list of funding for selected project initiatives. Final reports to both EPA and DOE are available upon request.

ACA, with several partners, successfully advanced a no-idling campaign in Chittenden County schools. This initiative has been a catalyst to others including the State of Vermont and businesses to implement no-idling policies in schools, institutions and businesses. The Burlington School District and more recently, the City of Burlington passed policies to encourage reduced idling at public facilities and by City employees.

The Vermont Biofuels Association (VBA), a not-for-profit corporation, was founded in late 2003 and has been working on several projects to help build a statewide commercial biofuels network. These projects have received over \$660,000 in federal, state and private funding, as well as, participation from such diverse sources as U.S. Department of Energy, VT Department of Public Service, Vermont Sustainable Jobs Fund, Office of Senator Patrick Leahy and VT Fuel Dealers.

## Final Proposal with EPA edits

Association.

### BIOGRAPHIES

**Harold Garabedian** has over twenty years of experience in the air pollution control field conducting and manager projects and grants, all well as presenting and publishing on matters of air pollution control.

**Netaka White** is a co-founder and Executive Director of the VBA and provides technical and marketing support to the Vermont Clean School Bus Initiative. He has served as Director of the VBA since January 2004 and also does private consulting and marketing for businesses and renewable energy groups. He also serves on the Board of Renewable Energy Vermont, the Vermont Council on Rural Development's Energy Council and the Vermont Sustainable Agriculture Council.

**Debra Sachs** is the Director of the Alliance for Climate Action and will serve as the project coordinator for the Clean School Bus Initiative. Ms. Sachs helps communities understand why they should care about energy efficiency, renewable energy, clean technologies, conservation, waste reduction and use of transportation alternatives. Ms. Sachs has helped advance planning and sustainable development projects that benefit Vermont communities for the last fifteen years. She has facilitated several workshops and community discussions on critical sustainable development. Ms. Sachs manages the ACA, provides staff support to advance its mission with assistance from federal, state and local and foundation funding sources. She manages the day-to-day activities of the 10% Challenge office, including staff and interns who assist in implementing the mission of the ACA. She is the statewide coordinator for the Vermont High Performance Schools Initiative. She oversees communications and special project development and implementation.

### Reporting

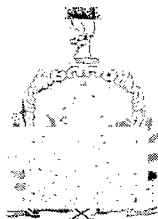
Quarterly reports are considered Progress Status reports and will provide the progress of project including a listing of the vehicles or engines which have been retrofitted or replaced (make, model, year, EPA engine family, type of equipment or service), the number of miles or hours those units have been in service since the retrofits occurred, number of miles or hours those units have been in service during the quarter, date that retrofit technology was introduced for each specific unit, fuel consumption, maintenance problems, maintenance performed, reception by driver(s), progress on original time line for the project and any other problems or concerns.

In addition to the quarterly status reports that track the progress of the retrofit project, a final project case study report will be written that will summarize the successes and lessons learned for the entire project. Below is an outline of what will be in such a report. This is a list of the minimum information for the Project Case Study Report and will be supplemented with additional information which is relevant to the project that would be useful for others.

1. Description of Project
2. Project Partners & Goals
3. Launch Events/Press/Publicity
4. Technologies
  - General and specific including parts and suppliers
5. Vehicles/Engines Involved
  - Specific descriptions of all vehicles and engines
6. Miles Driven/Engine Usage/Fuel Consumption
7. Emissions Reductions, Cost Analyses, and Fuel Costs
8. Lessons Learned
9. Contacts for Further Information







**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

**To:** Representative Robert Dostis

**From:** Nathan Lavery

**Date:** May 30, 2008

**Subject:** JFO #2326 (Clean School Bus grant)


Representatives Michael Obuchowski and Shap Smith asked that I forward to you a copy of the enclosed request and cover memo. They are requesting you provide them with your observations regarding the enclosed item.

cc: Rep. Michael Obuchowski  
Rep. Shap Smith  
Stephen Klein



**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

To: Joint Fiscal Committee Members  
From: Nathan Lavery, Fiscal Analyst   
Date: May 30, 2008  
Subject: Grant Request

Enclosed please find one (1) request which the Joint Fiscal Office recently received from the Administration:

**JFO #2326** — \$194,494 grant from the US Environmental Protection Agency. These grant funds will be used for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This program will reduce school bus emissions, improve school bus fuel efficiency, and develop an outreach plan for school officials.

*[JFO received 05/29/08]*

The Joint Fiscal Office has reviewed this submission and determined that all appropriate forms bearing the necessary approvals are in order.

In accordance with the procedures for processing such requests, we ask you to review the enclosed and notify the Joint Fiscal Office (Nathan Lavery at 802/828-1488; [nlavery@leg.state.vt.us](mailto:nlavery@leg.state.vt.us) or Stephen Klein at 802/828-5769; [sklein@leg.state.vt.us](mailto:sklein@leg.state.vt.us)) if you have questions or would like this item held for legislative review. Unless we hear from you to the contrary by June 13 we will assume that you agree to consider as final the Governor's acceptance of this request.

cc: James Reardon, Commissioner  
Linda Morse, Administrative Assistant  
George Crombie, Secretary  
Laura Pelosi, Commissioner



**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

To: Joint Fiscal Committee Members  
From: Nathan Lavery, Fiscal Analyst *N*  
Date: May 30, 2008  
Subject: Grant Request

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cc: James Reardon, Commissioner  
Linda Morse, Administrative Assistant  
George Crombie, Secretary  
Laura Pelosi, Commissioner

JFO#  
2326

STATE OF VERMONT  
GRANT ACCEPTANCE FORM

GRANT SUMMARY: Title: Cooperative Agreement between VTFPR and US Fish and Wildlife

This is a request for approval of a grant from US EPA for \$194,494.00 for the Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This initiative will reduce school bus emissions, improve school bus fuel efficiency and develop the outreach plan for school officials to communicate details of the initiative and where fleet owners can obtain technical assistance.

DATE: May 7, 2008

DEPARTMENT: Environmental Conservation (ANR)

GRANT / DONATION: \$194,494.00

FEDERAL CATALOG No.: 66.036

GRANTOR / DONOR: US EPA - New England Region 1

AMOUNT / VALUE: \$194,494.00

POSITIONS REQUESTED: None

GRANT PERIOD: 12/01/2006 to 11/30/2008

COMMENTS: See attachments.

DEPARTMENT OF FINANCE AND MANAGEMENT:  
SECRETARY OF ADMINISTRATION  
SENT TO JOINT FISCAL OFFICE:

(INITIAL) SM 5/12/08

(INITIAL) RFM 5/12/08

DATE: 5/22/08

**RECEIVED**

MAY 29 2008

**JOINT FISCAL OFFICE**

**STATE of VERMONT**  
**AGENCY of NATURAL RESOURCES**  
**DEPARTMENT of ENVIRONMENTAL CONSERVATION**  
~ COMMISSIONER'S OFFICE ~

**MEMORANDUM**

**Tel: (802) 241-3810**

**Fax: (802) 244-5141**

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**TO:** Jason Aronowitz, Budget Analyst  
Department of Finance & Management

**THRU:** George Crombie, Secretary  
Agency of Natural Resources

**FROM:** Laura Pelosi, Commissioner  
Department of Environmental Conservation

**DATE:** April 7, 2008

**SUBJECT:** AA-1 request



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Attached is a request for a grant acceptance (AA-1) for a grant from US Environmental Protection Agency for the Clean School Bus program. All relevant grant documentation has been attached.

If you have any questions or are in need of further information, please do not hesitate to contact me. Thank you for your attention in this matter.

**Cc: Steve Chadwick, ANR**  
**Joanna Raycraft, DEC**

STATE OF VERMONT  
 REQUEST FOR GRANT ACCEPTANCE  
 (use additional sheets as needed)

FORM AA-1  
 (Rev. 9-90)

1. Agency: **Agency of Natural Resources**
2. Department: **Department of Environmental Conservation**
3. Program: **Clean School Bus USA**
4. Legal Title of Grant: **Vermont Clean School Bus Project**
  
5. Federal Catalog No.: **66.036**
6. Grantor and Office Address: **U.S. EPA - New England, Region I**  
**1 Congress Street, Suite 1100**  
**Boston MA 02114-2023**
7. Grant Period: **2 years** From: **12/01/2006** To: **11/30/2008**

8. Purpose of Grant (attach additional sheets if needed):  
**Clean School Bus Program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. This initiative will reduce school bus emissions, improve school bus fuel efficiency and develop the outreach plan for school officials to communicate details of the initiative and where fleet owners can obtain technical assistance.**

9. Impact on Existing Programs if Grant is not Accepted:  
**This grant does not directly affect existing programs but will impact future EPA funding for the mobile source air quality program.**

10. Budget Information:	(1st State FY) <u>FY 2008</u>	(2nd State FY) <u>FY 2009</u>	(3rd State FY) <u>FY 2010</u>
<b>EXPENDITURES:</b>			
Personal Services	\$ 36,135.00	\$ 18,068.00	\$ -
Operating Expenses	\$ 2,370.00	\$ 1,185.00	\$ -
Other	\$ 108,293.00	\$ 54,146.00	\$ -
<b>TOTAL</b>	<b>\$ 146,798.00</b>	<b>\$ 73,399.00</b>	<b>\$ -</b>
<b>REVENUES:</b>			
State Funds:			
Cash	\$ -	\$ -	\$ -
In-Kind	\$ 24,571.00	\$ 12,285.00	\$ -
Federal Funds:			
(Direct Costs)	\$ 122,227.00	\$ 61,114.00	\$ -
(Statewide Indirect)	\$ -	\$ -	\$ -
(Department Indirect)	\$ 7,435.00	\$ 3,718.00	\$ -
Other Funds:			
(source)	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 154,233.00</b>	<b>\$ 77,117.00</b>	<b>\$ -</b>

Grant will be	<u>Appropriation Nos.</u>	<u>Amounts</u>
allocated to these appropriation expenditure accounts:	<b>6140030000</b>	<b>All</b>

REV APR 10 2008

11. Will grant monies be spent by one or more personal service contracts?

YES  NO

If YES, signature of appointing authority here indicates intent to follow current guidelines on bidding.

X 

12a. Please list any requested Limited Service positions:

Titles	Number of Positions
	0
TOTAL	0

12b. Equipment and space for these positions:

- Is presently available.
- Can be obtained with available funds.

13. Signature of Appointing Authority

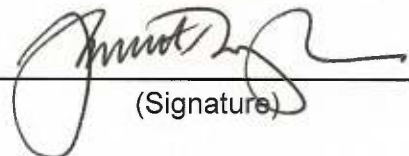
I certify that no funds have been expended or committed in anticipation of Joint Fiscal Committee approval of this grant.

  
 (Signature)  
 Deputy **Commissioner**  
 (Title)

4/7/2008  
(Date)

14. Action by Governor:

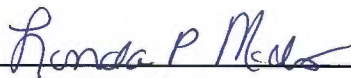
- Approved
- Rejected

  
 (Signature)

5/20/08  
(Date)

15. Secretary of Administration:

- Request to JFO
- Information to JFO

  
 (Signature)

5/15/08  
(Date)

16. Action by Joint Fiscal Committee:


(Dates)

- Request to be placed on JFC agenda \_\_\_\_\_
- Approved (not placed on agenda in 30 days) \_\_\_\_\_
- Approved by JFC \_\_\_\_\_
- Rejected by JFC \_\_\_\_\_
- Approved by Legislature \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)



	<b>U.S. ENVIRONMENTAL PROTECTION AGENCY</b>  <b>Grant Agreement</b>	<b>ASSISTANCE ID NO.</b>			<b>DATE OF AWARD</b> <i>12/13/06</i>	
		<b>PRG</b>	<b>DOC ID</b>	<b>AMEND#</b>		
		<b>SB - 97163701 - 0</b>				<b>MAILING DATE</b> <i>12/20/06</i>
		<b>TYPE OF ACTION</b> New				
<b>PAYMENT METHOD:</b> ASAP				<b>ACH#</b> 8105		

<b>RECIPIENT TYPE:</b> State	<b>Send Payment Request to:</b> US Environmental Protection Agency Las Vegas Finance Center P.O. BOX 98515 Las Vegas, Nevada 89193-8515
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<b>RECIPIENT:</b> Vermont D.E.C. 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401 EIN: 03-6000274	<b>PAYEE:</b> Vermont D.E.C. 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401
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<b>PROJECT MANAGER</b> Harold T. Garabedian 103 S. Main Street, Bldg. 1 So. Waterbury, VT 05671-0401 E-Mail: Harold.Garabedian@state.vt.us Phone: 802-241-3849	<b>EPA PROJECT OFFICER</b> Halida Hatic 1 Congress Street, Suite 1100, CAQ Boston, MA 02114-2023 E-Mail: Phone: 617-918-1680	<b>EPA GRANT SPECIALIST</b> Janet Bartlett Grants Management Office, MGM E-Mail: Bartlett.Janet@epamail.epa.gov Phone: 617-918-1972
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**PROJECT TITLE AND DESCRIPTION**  
Clean School Bus  
Vermont Department of Conservation (VT DEC) will use funding to retrofit up to 25 school buses within Vermont school districts with advanced pollution control technology, including auxiliary power units, diesel oxidation catalysts and crankcase filters.

<b>BUDGET PERIOD</b> 12/01/2006 - 11/30/2008	<b>PROJECT PERIOD</b> 12/01/2006 - 11/30/2008	<b>TOTAL BUDGET PERIOD COST</b> \$231,350.00	<b>TOTAL PROJECT PERIOD COST</b> \$231,350.00
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### NOTICE OF AWARD

Based on your application dated 11/01/2006, including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA), hereby awards \$194,494. EPA agrees to cost-share 84.07% of all approved budget period costs incurred, up to and not exceeding total federal funding of \$194,494. Such award may be terminated by EPA without further cause if the recipient fails to provide timely affirmation of the award by signing under the Affirmation of Award section and returning all pages of this agreement to the Grants Management Office listed below within 21 days after receipt, or any extension of time, as may be granted by EPA. This agreement is subject to applicable EPA statutory provisions. The applicable regulatory provisions are 40 CFR Chapter 1, Subchapter B, and all terms and conditions of this agreement and any attachments.

<b>ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)</b>	<b>AWARD APPROVAL OFFICE</b>
<b>ORGANIZATION / ADDRESS</b> EPA New England 1 Congress Street, Suite 1100  Boston, MA 02114-2023	<b>ORGANIZATION / ADDRESS</b> U.S. EPA, EPA New England  1 Congress Street, Suite 1100 Boston, MA 02114-2023

**THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>SIGNATURE OF AWARD OFFICIAL</b> <i>James T. Owens, III</i>	<b>TYPED NAME AND TITLE</b> James T. Owens, III, Dir. Office of Administration and Resource Mgmt.	<b>DATE</b> <i>12/13/06</i>
--	--	--------------------------------

### AFFIRMATION OF AWARD

**BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION**

<b>SIGNATURE</b> <i>Jeffrey Wennberg</i>	<b>TYPED NAME AND TITLE</b> Jeffrey Wennberg, Commissioner	<b>DATE</b> <i>2 Jan 07</i>
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# EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	\$	\$ 194,494	\$ 194,494
EPA In-Kind Amount	\$	\$	\$ 0
Unexpended Prior Year Balance	\$	\$	\$ 0
Other Federal Funds	\$	\$	\$ 0
Recipient Contribution	\$	\$ 36,856	\$ 36,856
State Contribution	\$	\$	\$ 0
Local Contribution	\$	\$	\$ 0
Other Contribution	\$	\$	\$ 0
Allowable Project Cost	\$ 0	\$ 231,350	\$ 231,350

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.036 - Clean School Bus USA	Department of the Interior Environment and Related Agencies Appropriations Act 2006 (Public Law 109-54)	40 CFR PART 31

Fiscal									
Site Name	DCN	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
	0CG002	2007	E4C	01L	101AG8E	41.83			194,494
									194,494

## Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	\$39,593
2. Fringe Benefits	\$14,610
3. Travel	\$445
4. Equipment	\$141,894
5. Supplies	\$240
6. Contractual	\$20,545
7. Construction	\$0
8. Other	\$2,870
9. Total Direct Charges	\$220,197
10. Indirect Costs: % Base	\$11,153
11. Total (Share: Recipient <u>15.93</u> % Federal <u>84.07</u> %.)	\$231,350
12. Total Approved Assistance Amount	\$194,494
13. Program Income	\$0
14. Total EPA Amount Awarded This Action	\$194,494
15. Total EPA Amount Awarded To Date	\$194,494

## Final Proposal with EPA edits

### Vermont Clean School Bus Initiative

**Name of Project:** Vermont Clean School Bus Initiative (VCSBI)

**Lead Organization:** Vermont Department of Environmental Conservation  
Air Pollution Control Division (APCD)  
Building 3 South  
103 South Main Street  
Waterbury, VT 05671-0402

**Point of contact:** Harold Garabedian, Deputy Director APCD  
802-241-3849  
[harold.garabedian@state.vt.us](mailto:harold.garabedian@state.vt.us)

**Funding Amount:** \$194,494  
**Matching Funds:** \$36,856  
**Project category:** Clean School Buses

#### BRIEF PROJECT DESCRIPTION

**ABSTRACT** This grant proposal requested \$282,600 and was awarded \$194,494 from EPA's Clean School Bus USA program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. The Vermont Clean School Bus Initiative will reduce school bus diesel emissions, improve school bus fuel efficiency, develop the marketing and outreach plan for school officials to specifically communicate details of the Initiative and where school fleet owners and decision-makers can obtain technical assistance to advance use of cleaner technologies and fuels.

Grant funds will accomplish the following: provide incentive funding to install EPA approved retrofit technologies on school buses within Vermont school districts; develop marketing, outreach and training opportunities about specific details of the Initiative and technical information about the benefits of the retrofit technologies and use of alternative fuels (to school officials, including school bus fleet and maintenance personnel and Vermont's fuel dealers); route optimization assessments; and reporting and sharing results via strategic communications by Initiative subgrantees and stakeholders to support and strengthen the network of school officials to achieve shared goals of reduced diesel emissions via a suite of technologies, fuels and idling reduction strategies. Through this project, emissions from the retrofitted buses will be reduced to the maximum degree that the technology allows, childhood exposure to unhealthful contaminants reduced, and the effectiveness of these will be demonstrated to a much larger and broader audience of school bus administrators throughout the state.

**GOAL** Reduce diesel emissions and exposure to children and adults of diesel exhaust from school buses. Educate the broader audience of school bus fleet administrator on the benefits of reduced emissions and reduced childhood exposure to school bus emissions.

**REGIONAL GEOGRAPHIC AREA**—State of Vermont, the selected school districts will be geographically distributed to benefit effected populations in rural, suburban and urban communities. The proposal is to select representative schools among several geographic locations representing small, medium and large school districts. In addition, selection of the school districts will be decided on at least two of the following criteria: percentage of population living at or below poverty; age of the school bus fleet; commitment by school district to participate and share results; and whether other idling and emissions reduction strategies will be adopted and implemented.

#### PROJECT OUTPUTS

- 20-25 School buses retrofitted with one to three EPA approved technologies (i.e., auxiliary heaters; crankcase ventilation and diesel oxidation catalysts)
- Reduced school bus emissions
- Reduced school bus fuel consumption/increased efficiency

## Final Proposal with EPA edits

- Health benefits—reduced childhood exposure to unhealthful and toxic air contaminants
- Route optimization assessment in pilot school district(s)—results to be shared with other Vermont schools
- Educated users and suppliers about approved and available technologies for reduced emissions and improved efficiency.
- Institutionalized documentation and purchasing practices

ANTICIPATED OUTCOMES of the project, including those described by Section

### MEASURING ENVIRONMENTAL RESULTS

The environmental results accrue from the use of EPA verified emission reduction technologies, and educating operators and school bus fleet administrators in merits of these technologies.

Only technologies verified by USEPA will be employed and these technologies are certified to reduce emission by 20 to 80%.

Once school bus administrators are knowledgeable about the threat that school bus emissions represents to developing school age children, there will be opportunities beyond this grant to facilitate emissions reductions. The education and outreach effort will be tracked by monitoring the number of events conducted, the number of attendees and following up on the received message.

### BUDGET OVERVIEW – (see budget detail in appendices)

	EPA
Vehicle Retrofit Hardware	136,894
Marketing Initiative, outreach, education, training, communications	20,545
Personnel	20,965
Other	16,090
<b>TOTAL</b>	<b>\$ 194,494</b>

**TRANSFERABILITY**—The results of this project (i.e., brief summary of project components and results) will be shared outside Vermont to the Northeast Energy Efficiency Partnership for dissemination to state High Performance Schools Initiatives throughout New England. Equally, Vermont schools will be made aware that they can earn two elective credits for policy and operations for high performance school status in accordance with Northeast High Performance School Protocol by NEEP. New England states are advancing High Performance Green Schools standards including Vermont.

The VCSBI seeks to reduce Vermont school bus emissions through the following strategy:

- Install EPA approved emission reduction technologies on Vermont school buses
- Support ongoing, statewide Breathe Better Vermont school bus emissions reductions efforts
- Document and report fleet and vehicle emissions reductions (i.e., number of school districts participating, number of older school buses retrofitted, changes in asthma rates before and after the retrofit, as available from the Department of Health and idling reduction strategies)
- Adapt and disseminate Initiative project information in multi-layered marketing campaign

**Project Description: For Clean School Bus proposals, clearly describe the proposed technology and implementation strategy.**

Five task areas are proposed to help achieve the above goal:

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1. Install EPA-approved retrofit technology and ANR suggested priorities on Vermont buses/fleets to improve vehicle and fleet emissions.
2. Develop outreach and marketing program to educate partner school districts in the real world applications of using approved technologies and strengthen the clean technology and alternative fuels supply network in Vermont through increased demand.
  - a. Bring together partners and stakeholders to brainstorm and strategize on how to improve upon and expand the statewide *Breathe Better Vermont* initiative. The initiative is designed to help protect children and bus drivers from diesel school bus exhaust by encouraging schools to limit the amount of time buses idle their engines. Reduced exposure to diesel emissions requires a multi-pronged approach including commitment and responsibility at all levels and both technologies, clean fuels and behavior change working together.
  - b. Three focus group sessions are planned in first 18 months to develop and implement a rational and integrated plan to achieve quality transportation.
3. Report and document vehicle and fleet emissions reductions and determine most effective mechanism(s) for reducing diesel emissions from school buses in Vermont.
4. Build institutional capacity among partners and stakeholders to adapt and disseminate information for school staff, administrators, and school boards to help break down the market barriers and accommodate demand for clean technologies and fuels through procurement and transportation contract practices.
  - a. Coordination will help clarify partner and stakeholder roles. This task will involve two or more work sessions among partners and stakeholders on how Vermont school transportation will realize short and long-term outcomes for cleaner fleets and behavior change.

### PROPOSAL NARRATIVE

#### b. Local or Regional Significance:

The Union of Concerned Scientist recently released its 2006 School Bus Pollution report card. While Vermont received good marks for the Breathe Better Vermont anti-idling campaign, our overall "Soot Pollution Grade" was C. The age of our statewide school bus fleet and a lack of funding for bus replacements, retrofits and cleaner fuels were identified as areas for improvement. The average age of a school bus is 9 years old. However, about half of Vermont's known school buses are more than 10 years old (see fleet description attachment).

Because of its rural nature and centralized school system, Vermont is heavily dependent on school buses for student transportation. According to data from the Department of Education, Vermont's school buses travel an estimated total of 13 million miles annually. Per capita, this is more than any state in the nation. Due to the high VMT of school buses, school children have the potential to be exposed to unacceptably high amounts of diesel exhaust. School bus emissions put students, drivers, and general school populations at considerable risk.

Idling is a major source of air pollution and presents a health risk to our community as it aggravates cardiovascular and respiratory conditions including asthma, emphysema, and bronchitis and particularly affects older adults, children, and people with heart and lung conditions. Idling also wastes precious energy resources. Diesel exhaust is identified by the EPA as "likely to be carcinogenic to humans by inhalation from environmental exposures" and by IARC as "probably carcinogenic to humans". The noncancer risks of diesel exhaust include: pulmonary inflammation and histopathology. Furthermore, children may be particularly susceptible to the harmful effects of diesel exhaust due to their increased breathing rates and developing lungs. Asthma rates are on the rise in Vermont, stressing the importance of minimizing children's exposure to the harmful effects of diesel exhaust and presenting exposure challenges in and outside school buildings. In several cases, indoor air quality is contaminated by diesel exhaust from idling buses and vehicles in student drop-off areas.

Vermont's air quality is approaching unhealthy levels for ozone, NOx and PM2.5. Though the state air quality is currently in attainment, state experts are concerned about local air quality and the rise in greenhouse gas emissions associated with increased transportation emissions. Furthermore, motor vehicles are the largest

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source (65 percent) of ozone-forming toxic and carcinogenic pollutants in Vermont. Motor vehicles emit about 2 million pounds of those carcinogenic compounds such as benzene, formaldehyde and 1,3-Butadiene. The idling of vehicles contributes heavily to these high pollutant levels.

With help from the Environmental Protection Agency, the Initiative stakeholders will work together on a public education initiative "Breathe Better Vermont" to ensure that the schools are knowledgeable of the adverse impacts of idling and to develop and implement a plan for enforcement, beginning in Burlington.

### c. Stakeholder Involvement/Impacts:

Vermont Department of Environmental Conservation—Fiduciary entity. Will be the project lead, responsible for quarterly reports and deliverables. In addition, DEC will be responsible for providing technical assistance to schools for retrofit purchases, idling reduction strategies and procurement for school bus retrofits. VT DEC will contract with the following partners/subgrantees to procure and supply schools with clean technologies and fuels.

#### Partners (Subgrantees)

- Alliance for Climate Action, 10% Challenge ACA will help develop and implement the marketing and outreach components. In addition, ACA will help organize focus groups, stakeholders and others to accomplish short and long-term outcomes.
- City of Burlington School District—Will help transfer results of their idling reduction efforts, policies, experiences including health benefits in particular and use of retrofit technologies. In addition, the District will advance clean fuels and technologies in its three buses as well as inform the Initiative of environmental and health successes to share with other Vermont Schools.
- Vermont Biofuels Association - May provide technical assistance and facilitation in the design and implementation of outreach and marketing component.
- Vermont Superintendents Association— Will help in the selection process of the participating school districts and will assist in communications to participating superintendents and beyond regarding project successes.
- Participating School Districts—Will be responsible for selecting buses for retrofit upgrades and/or use of alternative fuels and for assisting the partner team in tracking reporting and communicating .

Active Stakeholders—the following active stakeholders will bring their experience to the table in guiding the process and communications of the Clean School Bus Initiative to respective constituents.

- Vermont Principal's Association
- Vermont School Boards Insurance Trust--
- Vermont High Performance Schools Initiative
- Vermont Department of Health
- American Lung Association of Vermont
- Vermont Clean Cities Program

The Agency of Natural Resources (ANR) will act as fiduciary and project lead. ANR will also provide technical assistance to schools and stakeholders ANR will contribute marketing assistance and outreach and education.

The Alliance for Climate Action will assist in project coordination for the Initiative: Communications, focus groups, and coordination of work tasks for partners, stakeholders, suppliers and end users. The Alliance will build upon its current network as coordinator of the Vermont High Performance Schools Initiative and help strengthen the network of the Clean School Bus Initiative.

The Vermont Superintendents Association School Energy Management Program and the Vermont School Boards Insurance Trust will help select the participating school districts and will continue to communicate to the school community as a whole on the grant findings and progress.

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The Vermont Department of Health coordinates the ENVISION program in Vermont. The Vermont Clean School Bus Initiative may be able to partner with this effort to help schools achieve our shared goals of healthy indoor environmental quality and adoption of policies that lead to reduced diesel emissions, idling, use of alternative fuels and clean technologies.

### d. PROJECT GOALS and OUTPUTS

This project will reduce exposure of school-age children to unhealthy and toxic air contaminants. Technologies will be employed that will allow school bus operators to discontinue the current practice of idling buses to warm the engine and cabin to ensure safe operation and clear windshield during winter operations. At the same time overall fuel consumption will be reduced. Additionally technologies will be employed that will reduce in-cabin concentration of toxic and unhealthy air contaminants that children are exposed to.

#### Priority Technologies for Vermont School Buses/Fleets

EPA Approved Technology	Estimated Cost per	After Market Cost	VT Priority
Auxiliary Heater	\$1,500	\$2,500 - 3,500	1
Crankcase Ventilation	500		2
Diesel Oxidation Catalysts (DOC)	1,000	2500 - 3000	3

### e. PROJECT BENEFITS /OUTCOMES:

#### OUTCOMES

- Retrofit Vermont school buses with cleaner technologies in several school districts across Vermont
- Discontinue idling as a strategy for starting buses on buses retrofitted with auxiliary heaters
- All VT schools will be informed of project. Distribute tools to assist school administrators and school boards in developing policy and making purchases that continue to achieve school bus emissions reductions

**PROJECT OUTREACH AND COMMUNICATION PLAN:** ANR will contract with the Alliance for Climate Action for project coordination. Initiative partners will form the working group to guide all aspects of the project.

#### Approach to Marketing, Networking, Training and Communications

1. Gather partners and stakeholders to: a) hold initial focus group discussion on barriers, needs and opportunities to inform the development of marketing and outreach plan; and b) develop and refine common messaging.
2. Hold a Press Conference to kick-off the Clean School Bus Initiative with invited guests to report on local experiences.
3. Gather brief information sheets of existing experiences with clean fuels and technologies;
4. Collect and develop easy to use marketing and resource materials for posting on Initiative partners' and stakeholders' websites. Distribution to schools will occur via existing channels of communication (i.e., Vermont Superintendents Association, Department of Education, Vermont Principal's Association; and other interested networks;
5. Equip service providers in schools with training and technical and resource information (i.e., VSA SEMP; VSBIT; Sustainable Schools Project, Safe Routes to Schools, ENVISION.
6. Collaborate with SEMP to select partner districts for assistance (both financial and resources);
7. Coordinate suppliers and end users for EPA/ANR preferred technologies, alternative fuels and shared experiences. Collaboration with state procurement process for preferred technologies. Explore adding technologies to State approved products list.
8. In cooperation with Envision make presentations at annual planned meetings of school custodians/facility managers (July 22-23, 2007), superintendents, school board officials, business managers and school nurses.
9. Conduct quarterly partner/stakeholder meetings.



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10. Develop and coordinate accessible reporting and sharing of results via existing communication networks and website postings and per EPA agreement requirements.
11. Recognize and award school districts for their efforts to implement a multi-layered approach to reducing diesel emissions exposure to children, faculty and staff on and off the school site.

### PROJECT TIMELINE and MILESTONES

This project will be completed within a 24-month period with reporting of successes to continue beyond this period as outreach and recognition of successes are institutionalized into existing education, outreach and recognition efforts (i.e., annual Governors Award for School Environmental Plans and Implementation).

Month 1—Stakeholders meet, focus group work session, marketing and resource materials developed. Identify school districts with appropriate aged vehicles for maximum benefit from retrofit technologies. 1 – 2 partner school districts approached and confirmed.

Month 2 - 1 – 2 additional partner school districts selected.

Month 3—Press Conference—Initiative Kick-off. Outreach to schools scheduled. Network established, list-serv and webpage of resources and selected local experiences posted. Remaining partner schools confirmed.

Month 6—Focus group two--work session, training for partners and stakeholders, marketing and outreach to schools begins, continues for six months, technologies and clean fuels ordered.

Month 12—Installation of technologies. Stakeholders meeting. Circuit-rider to visit schools, provide support and follow-up as necessary.

Month 18—Collect results, synthesize and report. Refinement of resource materials (if needed). Develop final reporting for transfer statewide and beyond to New England via Northeast Energy Efficiency Partnerships.

Month 24—Report project results to partners, Vermont's school community and EPA. Communications will continue as opportunities to present to selected school official audiences and through partner email, newsletter, website communications.

### g. ENVIRONMENTAL RESULTS and PAST PERFORMANCE

#### Programmatic Capability

The Vermont Air Pollution Control Division has been a grant recipient under Section 105 of the Clean Air Act for over thirty years. Its record of performance in successfully completing projects and reporting conditions has been recognized by EPA's Office of Air Quality, Planning and Standards.

The Alliance for Climate Action (ACA), has managed several federal funded projects to help encourage energy savings, waste reduction and greenhouse gas emissions reductions. The following is a partial list of funding for selected project initiatives. Final reports to both EPA and DOE are available upon request.

ACA, with several partners, successfully advanced a no-idling campaign in Chittenden County schools. This initiative has been a catalyst to others including the State of Vermont and businesses to implement no-idling policies in schools, institutions and businesses. The Burlington School District and more recently, the City of Burlington passed policies to encourage reduced idling at public facilities and by City employees.

The Vermont Biofuels Association (VBA), a not-for-profit corporation, was founded in late 2003 and has been working on several projects to help build a statewide commercial biofuels network. These projects have received over \$660,000 in federal, state and private funding, as well as, participation from such diverse sources as U.S. Department of Energy, VT Department of Public Service, Vermont Sustainable Jobs Fund, Office of Senator Patrick Leahy and VT Fuel Dealers

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Association.

### BIOGRAPHIES

**Harold Garabedian** has over twenty years of experience in the air pollution control field conducting and manager projects and grants, all well as presenting and publishing on matters of air pollution control.

**Netaka White** is a co-founder and Executive Director of the VBA and provides technical and marketing support to the Vermont Clean School Bus Initiative. He has served as Director of the VBA since January 2004 and also does private consulting and marketing for businesses and renewable energy groups. He also serves on the Board of Renewable Energy Vermont, the Vermont Council on Rural Development's Energy Council and the Vermont Sustainable Agriculture Council.

**Debra Sachs** is the Director of the Alliance for Climate Action and will serve as the project coordinator for the Clean School Bus Initiative. Ms. Sachs helps communities understand why they should care about energy efficiency, renewable energy, clean technologies, conservation, waste reduction and use of transportation alternatives. Ms. Sachs has helped advance planning and sustainable development projects that benefit Vermont communities for the last fifteen years. She has facilitated several workshops and community discussions on critical sustainable development. Ms. Sachs manages the ACA, provides staff support to advance its mission with assistance from federal, state and local and foundation funding sources. She manages the day-to-day activities of the 10% Challenge office, including staff and interns who assist in implementing the mission of the ACA. She is the statewide coordinator for the Vermont High Performance Schools Initiative. She oversees communications and special project development and implementation.

### Reporting

Quarterly reports are considered Progress Status reports and will provide the progress of project including a listing of the vehicles or engines which have been retrofitted or replaced (make, model, year, EPA engine family, type of equipment or service), the number of miles or hours those units have been in service since the retrofits occurred, number of miles or hours those units have been in service during the quarter, date that retrofit technology was introduced for each specific unit, fuel consumption, maintenance problems, maintenance performed, reception by driver(s), progress on original time line for the project and any other problems or concerns.

In addition to the quarterly status reports that track the progress of the retrofit project, a final project case study report will be written that will summarize the successes and lessons learned for the entire project. Below is an outline of what will be in such a report. This is a list of the minimum information for the Project Case Study Report and will be supplemented with additional information which is relevant to the project that would be useful for others.

1. Description of Project
2. Project Partners & Goals
3. Launch Events/Press/Publicity
4. Technologies
  - General and specific including parts and suppliers
5. Vehicles/Engines Involved
  - Specific descriptions of all vehicles and engines
6. Miles Driven/Engine Usage/Fuel Consumption
7. Emissions Reductions, Cost Analyses, and Fuel Costs
8. Lessons Learned
9. Contacts for Further Information

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### Vermont Clean School Bus Initiative

**Name of Project:** Vermont Clean School Bus Initiative (VCSBI)

**Lead Organization:** Vermont Department of Environmental Conservation  
Air Pollution Control Division (APCD)  
Building 3 South  
103 South Main Street  
Waterbury, VT 05671-0402

**Point of contact:** Harold Garabedian, Deputy Director APCD  
802-241-3849  
[harold.garabedian@state.vt.us](mailto:harold.garabedian@state.vt.us)

**Funding Amount:** \$194,494  
**Matching Funds:** \$36,856  
**Project category:** Clean School Buses

#### BRIEF PROJECT DESCRIPTION

**ABSTRACT** This grant proposal requested \$282,600 and was awarded \$194,494 from EPA's Clean School Bus USA program to reduce diesel emissions and children's exposure to diesel exhaust from school buses. The Vermont Clean School Bus Initiative will reduce school bus diesel emissions, improve school bus fuel efficiency, develop the marketing and outreach plan for school officials to specifically communicate details of the Initiative and where school fleet owners and decision-makers can obtain technical assistance to advance use of cleaner technologies and fuels.

Grant funds will accomplish the following: provide incentive funding to install EPA approved retrofit technologies on school buses within Vermont school districts; develop marketing, outreach and training opportunities about specific details of the Initiative and technical information about the benefits of the retrofit technologies and use of alternative fuels (to school officials, including school bus fleet and maintenance personnel and Vermont's fuel dealers); route optimization assessments; and reporting and sharing results via strategic communications by Initiative subgrantees and stakeholders to support and strengthen the network of school officials to achieve shared goals of reduced diesel emissions via a suite of technologies, fuels and idling reduction strategies. Through this project, emissions from the retrofitted buses will be reduced to the maximum degree that the technology allows, childhood exposure to unhealthy contaminants reduced, and the effectiveness of these will be demonstrated to a much larger and broader audience of school bus administrators throughout the state.

**GOAL** Reduce diesel emissions and exposure to children and adults of diesel exhaust from school buses. Educate the broader audience of school bus fleet administrator on the benefits of reduced emissions and reduced childhood exposure to school bus emissions.

**REGIONAL GEOGRAPHIC AREA**—State of Vermont, the selected school districts will be geographically distributed to benefit effected populations in rural, suburban and urban communities. The proposal is to select representative schools among several geographic locations representing small, medium and large school districts. In addition, selection of the school districts will be decided on at least two of the following criteria: percentage of population living at or below poverty; age of the school bus fleet; commitment by school district to participate and share results; and whether other idling and emissions reduction strategies will be adopted and implemented.

#### PROJECT OUTPUTS

- 20-25 School buses retrofitted with one to three EPA approved technologies (i.e., auxiliary heaters; crankcase ventilation and diesel oxidation catalysts)
- Reduced school bus emissions
- Reduced school bus fuel consumption/increased efficiency

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- Health benefits—reduced childhood exposure to unhealthful and toxic air contaminants
- Route optimization assessment in pilot school district(s)—results to be shared with other Vermont schools
- Educated users and suppliers about approved and available technologies for reduced emissions and improved efficiency.
- Institutionalized documentation and purchasing practices

ANTICIPATED OUTCOMES of the project, including those described by Section

### MEASURING ENVIRONMENTAL RESULTS

The environmental results accrue from the use of EPA verified emission reduction technologies, and educating operators and school bus fleet administrators in merits of these technologies.

Only technologies verified by USEPA will be employed and these technologies are certified to reduce emission by 20 to 80%.

Once school bus administrators are knowledgeable about the threat that school bus emissions represents to developing school age children, there will be opportunities beyond this grant to facilitate emissions reductions. The education and outreach effort will be tracked by monitoring the number of events conducted, the number of attendees and following up on the received message.

### BUDGET OVERVIEW – (see budget detail in appendices)

	EPA
Vehicle Retrofit Hardware	136,894
Marketing Initiative, outreach, education, training, communications	20,545
Personnel	20,965
Other	16,090
<b>TOTAL</b>	<b>\$ 194,494</b>

**TRANSFERABILITY**—The results of this project (i.e., brief summary of project components and results) will be shared outside Vermont to the Northeast Energy Efficiency Partnership for dissemination to state High Performance Schools Initiatives throughout New England. Equally, Vermont schools will be made aware that they can earn two elective credits for policy and operations for high performance school status in accordance with Northeast High Performance School Protocol by NEEP. New England states are advancing High Performance Green Schools standards including Vermont.

The VCSBI seeks to reduce Vermont school bus emissions through the following strategy:

- Install EPA approved emission reduction technologies on Vermont school buses
- Support ongoing, statewide Breathe Better Vermont school bus emissions reductions efforts
- Document and report fleet and vehicle emissions reductions (i.e., number of school districts participating, number of older school buses retrofitted, changes in asthma rates before and after the retrofit, as available from the Department of Health and idling reduction strategies).
- Adapt and disseminate Initiative project information in multi-layered marketing campaign

**Project Description:** For Clean School Bus proposals, clearly describe the proposed technology and implementation strategy.

Five task areas are proposed to help achieve the above goal:

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1. Install EPA-approved retrofit technology and ANR suggested priorities on Vermont buses/fleets to improve vehicle and fleet emissions.
2. Develop outreach and marketing program to educate partner school districts in the real world applications of using approved technologies and strengthen the clean technology and alternative fuels supply network in Vermont through increased demand.
  - a. Bring together partners and stakeholders to brainstorm and strategize on how to improve upon and expand the statewide *Breathe Better Vermont* initiative. The initiative is designed to help protect children and bus drivers from diesel school bus exhaust by encouraging schools to limit the amount of time buses idle their engines. Reduced exposure to diesel emissions requires a multi-pronged approach including commitment and responsibility at all levels and both technologies, clean fuels and behavior change working together.
  - b. Three focus group sessions are planned in first 18 months to develop and implement a rational and integrated plan to achieve quality transportation.
3. Report and document vehicle and fleet emissions reductions and determine most effective mechanism(s) for reducing diesel emissions from school buses in Vermont.
4. Build institutional capacity among partners and stakeholders to adapt and disseminate information for school staff, administrators, and school boards to help break down the market barriers and accommodate demand for clean technologies and fuels through procurement and transportation contract practices.
  - a. Coordination will help clarify partner and stakeholder roles. This task will involve two or more work sessions among partners and stakeholders on how Vermont school transportation will realize short and long-term outcomes for cleaner fleets and behavior change.

### PROPOSAL NARRATIVE

#### b. Local or Regional Significance:

The Union of Concerned Scientist recently released its 2006 School Bus Pollution report card. While Vermont received good marks for the Breathe Better Vermont anti-idling campaign, our overall "Soot Pollution Grade" was C. The age of our statewide school bus fleet and a lack of funding for bus replacements, retrofits and cleaner fuels were identified as areas for improvement. The average age of a school bus is 9 years old. However, about half of Vermont's known school buses are more than 10 years old (see fleet description attachment).

Because of its rural nature and centralized school system, Vermont is heavily dependent on school buses for student transportation. According to data from the Department of Education, Vermont's school buses travel an estimated total of 13 million miles annually. Per capita, this is more than any state in the nation. Due to the high VMT of school buses, school children have the potential to be exposed to unacceptably high amounts of diesel exhaust. School bus emissions put students, drivers, and general school populations at considerable risk.

Idling is a major source of air pollution and presents a health risk to our community as it aggravates cardiovascular and respiratory conditions including asthma, emphysema, and bronchitis and particularly effects older adults, children, and people with heart and lung conditions. Idling also wastes precious energy resources. Diesel exhaust is identified by the EPA as "likely to be carcinogenic to humans by inhalation from environmental exposures" and by IARC as "probably carcinogenic to humans". The noncancer risks of diesel exhaust include: pulmonary inflammation and histopathology. Furthermore, children may be particularly susceptible to the harmful effects of diesel exhaust due to their increased breathing rates and developing lungs. Asthma rates are on the rise in Vermont, stressing the importance of minimizing children's exposure to the harmful effects of diesel exhaust and presenting exposure challenges in and outside school buildings. In several cases, indoor air quality is contaminated by diesel exhaust from idling buses and vehicles in student drop-off areas.

Vermont's air quality is approaching unhealthy levels for ozone, NO<sub>x</sub> and PM<sub>2.5</sub>. Though the state air quality is currently in attainment, state experts are concerned about local air quality and the rise in greenhouse gas emissions associated with increased transportation emissions. Furthermore, motor vehicles are the largest

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source (65 percent) of ozone-forming toxic and carcinogenic pollutants in Vermont. Motor vehicles emit about 2 million pounds of those carcinogenic compounds such as benzene, formaldehyde and 1,3-Butadiene. The idling of vehicles contributes heavily to these high pollutant levels.

With help from the Environmental Protection Agency, the Initiative stakeholders will work together on a public education initiative "Breath Better Vermont" to ensure that the schools are knowledgeable of the adverse impacts of idling and to develop and implement a plan for enforcement, beginning in Burlington.

### c. Stakeholder Involvement/Impacts:

Vermont Department of Environmental Conservation—Fiduciary entity. Will be the project lead, responsible for quarterly reports and deliverables. In addition, DEC will be responsible for providing technical assistance to schools for retrofit purchases, idling reduction strategies and procurement for school bus retrofits. VT DEC will contract with the following partners/subgrantees to procure and supply schools with clean technologies and fuels.

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### d. PROJECT GOALS and OUTPUTS

This project will reduce exposure of school-age children to unhealthful and toxic air contaminants. Technologies will be employed that will allow school bus operators to discontinue the current practice of idling buses to warm the engine and cabin to ensure safe operation and clear windshield during winter operations. At the same time overall fuel consumption will be reduced. Additionally technologies will be employed that will reduce in-cabin concentration of toxic and unhealthy air contaminants that children are exposed to.

#### Priority Technologies for Vermont School Buses/Fleets

EPA Approved Technology	Estimated Cost per	After Market Cost	VT Priority
Auxiliary Heater	\$1,500	\$2,500 - 3,500	1
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### e. PROJECT BENEFITS /OUTCOMES:

#### OUTCOMES

- Retrofit Vermont school buses with cleaner technologies in several school districts across Vermont
- Discontinue idling as a strategy for starting buses on buses retrofitted with auxiliary heaters
- All VT schools will be informed of project. Distribute tools to assist school administrators and school boards in developing policy and making purchases that continue to achieve school bus emissions reductions

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1. Gather partners and stakeholders to: a) hold initial focus group discussion on barriers, needs and opportunities to inform the development of marketing and outreach plan; and b) develop and refine common messaging.
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10. Develop and coordinate accessible reporting and sharing of results via existing communication networks and website postings and per EPA agreement requirements.
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Association.

### BIOGRAPHIES

**Harold Garabedian** has over twenty years of experience in the air pollution control field conducting and manager projects and grants, all well as presenting and publishing on matters of air pollution control.

**Netaka White** is a co-founder and Executive Director of the VBA and provides technical and marketing support to the Vermont Clean School Bus Initiative. He has served as Director of the VBA since January 2004 and also does private consulting and marketing for businesses and renewable energy groups. He also serves on the Board of Renewable Energy Vermont, the Vermont Council on Rural Development's Energy Council and the Vermont Sustainable Agriculture Council.

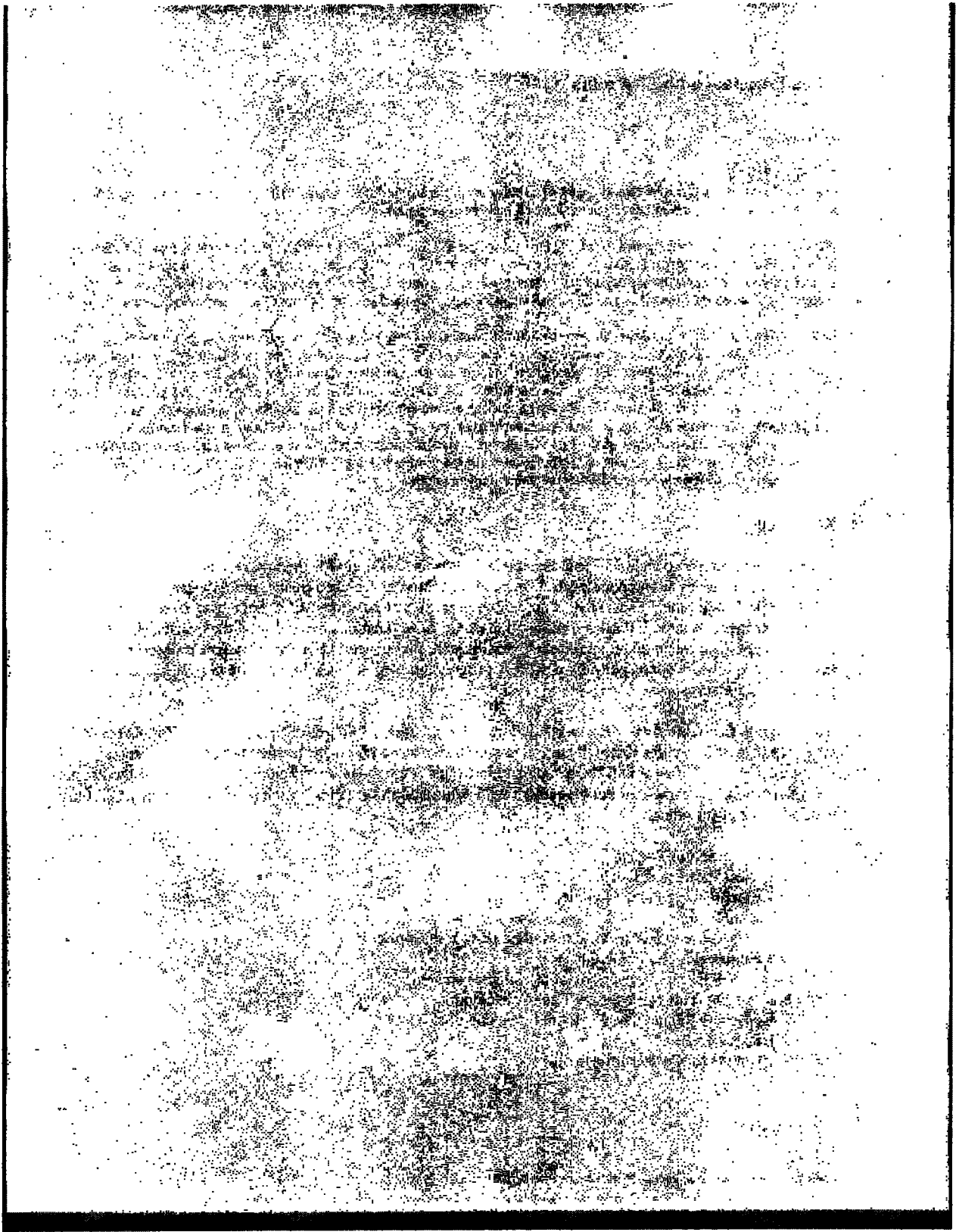
**Debra Sachs** is the Director of the Alliance for Climate Action and will serve as the project coordinator for the Clean School Bus Initiative. Ms. Sachs helps communities understand why they should care about energy efficiency, renewable energy, clean technologies, conservation, waste reduction and use of transportation alternatives. Ms. Sachs has helped advance planning and sustainable development projects that benefit Vermont communities for the last fifteen years. She has facilitated several workshops and community discussions on critical sustainable development. Ms. Sachs manages the ACA, provides staff support to advance its mission with assistance from federal, state and local and foundation funding sources. She manages the day-to-day activities of the 10% Challenge office, including staff and interns who assist in implementing the mission of the ACA. She is the statewide coordinator for the Vermont High Performance Schools Initiative. She oversees communications and special project development and implementation.

### **Reporting**

Quarterly reports are considered Progress Status reports and will provide the progress of project including a listing of the vehicles or engines which have been retrofitted or replaced (make, model, year, EPA engine family, type of equipment or service), the number of miles or hours those units have been in service since the retrofits occurred, number of miles or hours those units have been in service during the quarter, date that retrofit technology was introduced for each specific unit, fuel consumption, maintenance problems, maintenance performed, reception by driver(s), progress on original time line for the project and any other problems or concerns.

In addition to the quarterly status reports that track the progress of the retrofit project, a final project case study report will be written that will summarize the successes and lessons learned for the entire project. Below is an outline of what will be in such a report. This is a list of the minimum information for the Project Case Study Report and will be supplemented with additional information which is relevant to the project that would be useful for others.

1. Description of Project
2. Project Partners & Goals
3. Launch Events/Press/Publicity
4. Technologies
  - General and specific including parts and suppliers
5. Vehicles/Engines Involved
  - Specific descriptions of all vehicles and engines
6. Miles Driven/Engine Usage/Fuel Consumption
7. Emissions Reductions, Cost Analyses, and Fuel Costs
8. Lessons Learned
9. Contacts for Further Information



**From:** "Raycraft, Joanna" <Joanna.Raycraft@state.vt.us>  
**To:** "Nathan Lavery" <nlavery@leg.state.vt.us>  
**Date:** 5/28/2008 3:55 PM  
**Subject:** RE: Clean School Bus Program grant  
**Attachments:** AA1\_Clean\_School\_Bus\_Wrkpln.pdf

**CC:** "Lowe, Steve" <Steve.Lowe@state.vt.us>, "Johnson, Justin" <Justin.Johnso...  
Hello Nathan,

It was a pleasure speaking with you this morning in regard to our AA-1 for the Clean School Bus Program. I've attached for you a copy of the final approved work plan from the U.S. Environmental Protection Agency (EPA). I believe this work plan outlines in detail all the items you raised below which should help the JFC in their review and approval process of this VT Clean School Bus Initiative grant.

I want to just clarify that the federal portion of the award is \$194,494 and the VT DEC is providing an "in-kind" match of \$36,856 which is derived from existing Air Division staff personnel (so \$36k of the \$54k personal service costs budgeted in this grant is the VT DEC "in-kind" match shown under "revenues").

The main lead on this project from the VT DEC is Harold Garabedian who combined with one of his existing staff members will be working on the project jointly (approximately .70 FTE). Both the Air Division's and Harold's qualifications are detailed on pages 6 & 7 of the attached US EPA work plan.

Please let me know if you require any additional information to move this request forward to the JFC.

Thank you,

Joanna Raycraft  
Business Manager  
Dept. of Environmental Conservation  
103 South Main St., Bldg. 1 South  
Waterbury, VT 05671-0401  
(802) 241-3810  
joanna.raycraft@state.vt.us

-----Original Message-----

From: Nathan Lavery [mailto:nlavery@leg.state.vt.us]  
Sent: Tuesday, May 27, 2008 3:45 PM  
To: Raycraft, Joanna  
Subject: Clean School Bus Program grant

Hello Ms. Raycraft,

My name is Nathan Lavery. I am managing the grant approval process for the Joint Fiscal Committee. Today I received a grant approval request for the Clean School Bus Program.

The package of information we received contained no specifics regarding how this money would be used other than a basic budget. Before sending

this information out to JFC members, I would like to be able to include, at a minimum: a description of the program that covers the primary objectives (ie how will you actually reduce emissions - from your budget, it looks like you will be investing heavily in "equipment" but the nature of this investment is not detailed) and anticipated results (and how they will be measured), how outreach will be conducted, which schools will be eligible if eligibility is limited (and any associated eligibility criteria), the personnel who will be working on this project and their qualifications (I note that you are budgeting personal service expenditures of roughly \$54,000, but I do not see a reference to the number of employees or FTEs this is intended to cover) and a current time line.

Once I have this additional information I will mark the package as received and distribute it to the JFC members for review and additional questions.

Please do not hesitate to contact me with any questions or if any part of my request is unclear. Thank you.

Nathan Lavery  
Fiscal Analyst  
Legislative Joint Fiscal Office  
One Baldwin Street  
Montpelier VT 05633-5301  
(802) 828-1488  
nlavery@leg.state.vt.us

**From:** "Raycraft, Joanna" <Joanna.Raycraft@state.vt.us>  
**To:** "Nathan Lavery" <nlavery@leg.state.vt.us>  
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