Recipients of the 2005 - 2006 Vermont Governor's Awards for Environmental Excellence & Pollution Prevention

Those honored have chosen to see the world of possibilities
and achieved excellence in pursuit of a preferred future.
We can learn from their experiences and share in the joy of their achievement.

Jim Douglas, Governor

2005-2006 Vermont Governor's Awards For Environmental Excellence & Pollution Prevention Award Recipients

Selection Criteria:

- *Benefits to the environment*
- *Health & safety benefits*
- *Use of Innovative approaches, techniques, and/or technologies*
- *Level of commitment and leadership in waste reduction and pollution prevention*
- *Ability of program or activity to serve as a model for other efforts*
- *Economic efficiency*

Environmental Excellence in Pollution Prevention - Projects that reduce or eliminate the generation of pollutants and wastes at the source. The award category also includes toxics use reduction (TUR) efforts.

- **The Blodgett Oven Company** – Mercury Reduction Project
- **Green Mountain Coffee Roasters** – Engine Idling Reduction, Highbay Lighting Project, and the Eco-Friendly Cup
- **Green Mountain Power Corporation** – Berlin Landfarm for Treating Petroleum-Contaminated Soils, Corporate Environmental Responsibility Reporting
- **IBM (Burlington) Photolithography & Wafer Clean Operations Team** – Solvent Usage Reduction & Elimination Projects in Wafer Manufacturing Operations
- **Stillwater Graphics, Inc.** – Greener Printing: Elimination of Hazardous Waste Generation in Prepress Operations

Environmental Excellence in Environmental Stewardship & Resource Protection - Projects with measurable and direct benefits to air, land or water – or fish, wildlife and human communities dependent upon a clean and healthy environment.

- **Central Vermont Public Service** – CVPS & Audet's Cow Power
- **North Country Union High School** – Missisquoi River Basin Association High School Environmental Monitoring Program

Environmental Excellence in Resource Conservation - Projects that conserve resources and protect the environment by minimizing resource consumption or by applying the strategies of reuse or recycling.

- **Tony Barbagallo** – Chittenden Solid Waste District's Single Stream Materials Recovery Facility
- **The University of Vermont/Physical Plant Department** – Energy Efficiency Program

Environmental Excellence in Education & Outreach - Projects that inform and educate others about environmentally responsible practices or that empower citizens to enhance the quality of the environment for local, regional or global communities.

- **Chittenden County Regional Stormwater Education Program** – Increasing Stormwater Awareness & Changing Behaviors through Social Marketing
- **Office Environments, Inc.** – Office Environments Business & Design Resource Center Project: 5 Green Tree Place
- **Sterling College/Food Services** – Dining Services & Farm Collaboration: Bringing Local Foods to our Tables
- **Yestermorrow Design/Build School** – Curriculum Concentration in Sustainable Design and Construction

Special Youth Environmental Citizenship Award - Projects accomplished by a young person or young people (no older than 21 years of age) that achieve significant positive environmental outcomes.

- **Andrew Matt** – The Great Duxbury Tire Pull
- **Katie Feldman** – Save The Salamanders!

The following business is recognized as having achieved designation as a Vermont Business Environmental Leader in 2005 - 2006:

Vermont Business Environmental Leader:	**Smugglers' Notch Resort**

The following properties are recognized as having achieved designation as **Green Hotels in the Green Mountain State** in 2005 and 2006:

Green Hotels in the Green Mountain State:	**The Woodstocker Inn**
	Norwich Inn
	The Inn at the Round Barn
	Tucker Hill Inn
	Churchill House Inn

The 2005 – 2006 Vermont Governor's Awards for Environmental Excellence & Pollution Prevention

Governor's Message

I am honored to recognize this year's recipients of the Governor's Awards for Environmental Excellence & Pollution Prevention. Those recognized today are in the vanguard of Vermonters helping to build a more livable and sustainable future. They have helped inform and educate young Vermonters about the importance of environmental protection and resource conservation. They have modeled resource stewardship so that we can better understand how we too can be good environmental citizens. Through their actions they have evidenced why we need not characterize our efforts to protect the environment and to achieve prosperity as two separate paths. These paths, in the best of all circumstances, are the same when we work to achieve prosperity WITHOUT pollution.

As Vermonters the choice is ours to see either a world of possibilities or a world of problems. Those honored today have clearly chosen to see the world of possibilities and achieved excellence in pursuit of a preferred future. We can learn from their experiences and share in the joy of their achievement.

On behalf of all Vermonters, I wish to say thank you for your work on behalf of the state's environment and offer my congratulations to each of you being recognized today.

James Douglas, Governor

Environmental Outcomes Attributed to 2005-2006 Governor's Award Recipients

- A Boy Scout organized 25 volunteers, on two separate weekends, to clean up a former dump site. They stacked 7.71 tons of discarded tires for proper disposal and collected 1 ton of metal, including abandoned appliances, rolls of metal wire, various car parts and other metal waste, and three rusted pieces of farm equipment and the shell of a 36 passenger school bus circa 1950s. Broken glass, old televisions, discarded sinks and pieces of rubber were also collected and either recycled or disposed of properly.
- A high school-aged student developed and produced a DVD, "*Save the Salamanders! A Five Step Program for Environmental Advocacy.*" The DVD (and accompanying website at www.savethesalamanders.org) help to create awareness of the annual spring migration of the Eastern Spotted Salamander, of the resulting road kill, and how anyone can start her or his own local Salamander Road kill Reduction project. The DVD has resources for teachers in an Educators section of the disc and provides enough general information to serve as a guide to creating an environmental advocacy project of any type.
- Collaboration among 12 state and local entities helped Vermonters in the Champlain Basin to better understand the environmental consequences of stormwater and to change behaviors using social marketing. By identifying obstacles to changed behavior and strategies to address and overcome these obstacles the partners have worked to promote lifestyle and behavior changes necessary to protect water quality.
- At 5 Green Tree Place in South Burlington can be found a model for the office building of tomorrow. The building is anticipated to offer cost savings of 46% on heating; 32% on air conditioning; 38% on electrical use; with total energy use going from 20.87 to 11.87 kW/ft^2 as built. The result: an estimated first year energy savings of $10,400 and an estimated simple payback period of 3.4 years. In addition, 5 Green Tree Place acts as a case study for high performance interiors, illustrating products that are 95% recyclable, 98% reusable, and completely modular, thus facilitating change, not hampering it.
- In 2005, kitchen staff and students at Sterling College put up nearly 3,800 pounds of their own produce at an estimated value of about $8,800, and over 1,200 pounds of their own meat, at a value of over $2,600. They also made their own maple syrup, producing approximately 50 gallons in 2006. In addition, the kitchen purchased produce, eggs, apples, apple cider, yogurt, dry beans, wheat flour, beef, cheeses, butter, ice cream and milk from a variety of local sources. The kitchen composted all food wastes, both pre and post-consumer, as well as the unbleached napkins used in the dining hall. On average, 2,000 pounds of food waste each month was diverted from the conventional waste stream by sending organic waste to the composting system.
- Yestermorrow's Concentration in Sustainable Design and Construction includes courses that teach hands-on skills which help students of all ages and backgrounds design and build environmentally-responsible homes and sustainable communities. Such courses include, for example: Green Home Design, Green Remodeling, Installing an Independent Solar Power System, Solar Site Design, Permaculture Design Certification, Biofuels, Deconstruction and Materials Re-Use, Introduction to Cob Building, Strawbale Design/Build, EcoCommunity Planning, Microclimate Design, Solar Design, Resource and Energy Efficiency, and The Super-Insulated Home, among others.Yestermorrow empowers people to create an inspired built environment that helps to sustain the natural

environment. As such, the principle of sustainability is considered a fundamental element of "good design," and is naturally treated as such in course curricula and in the overall culture of the School, which is an integral part of a student's total Yestermorrow expereince. In 2006, Yestermorrow partnered with the US EPA Region 1 and ReCycle North to create an innovative pilot program to train non-profits in the field of deconstruction and materials re-use, with the overall goal of reducing construction and demolition waste.

- The improved economics and greater convenience of Chittenden Solid Waste District's Materials Recovery Facility has yielded greater annual throughputs going from 23,000 tons per prior to single stream implementation to 36,000 tons in 2006. The District is now approaching 65% capture rate for newspaper and other fibers because of the collection efficiencies and simplicity of single stream recycling. In April of 1993, recycling became mandatory for all residents, businesses, and institutions in the District and in 2005, the most recent year for which data are available, recycling efforts kept over 72,000 tons of material from being wasted in a landfill.
- Energy use for heating, cooling, and powering the University of Vermont totals 57 million kilowatt-hours and 546 billion BTUs per year, costing close to $9.5 million in fiscal year 2005. Since the University of Vermont established an energy policy in 1990, projects in energy efficiency and smarter energy use have avoided millions of dollars in electricity, heating fuel, and water costs. Efficiency projects in 2000-2005 saved an estimated 2,924,000 kWh and 2.2 billion BTUs, totalling $2,460,000 in electric savings and $1,997,000 in natural gas savings over the six year period. UVM efficiency measures also reduced peak demand for power by 330 kilowatts, of which 55% were in summer when electric power is most expensive, thus helping control costs for the entire city of Burlington. The University of Vermont has also saved over 53,200 Mcf/yr (Million cubic feet per year) in natural gas, or almost half a million dollars per year in gas costs. These savings will likely increase over time as UVM has energy conservation measures in place that are estimated to save an additional $150,000 per year of natural gas. It is estimated that more than 1,108,770 Mcf of natural gas is being saved over the life of these installed measures, representing almost $10,000,000 in savings.
- By eliminating the use of mercury-containing contactors and gas safety valve controls, Blodgett Oven has reduced its use of mercury from 2004 to 2005 by 61%, which equates to a reduction of aproximately 1,040 pounds of mercury. In calendar year 2006 the reduction is projected to be an additional 28%. Overall by the end of calendar year 2006 Blodgett anticipates an 89% reduction in total mercury use at its facility which equates to a reduction of approximately 1,225 pounds. Blodgett continues to explore additional opportunities to reduce its use of mercury by pursuing alternatives for the remaining product lines. Blodgett Oven's leadership came in advance of legislative mandates. Consequent to its efforts to eliminate use of mercury-containing components, Blodgett has since realized economic benefits as well as environmental, health, and safety benefits. On average, savings amounted to $12.50 per component and saved the company approximately 2.7 million dollars in one year alone.
- Using information and education as tools and a challenge issued to drivers, Green Mountain Coffee Roasters was able to reduce engine idling by 54%, saving more than $7,000 in fuel costs. Green Mountain Coffee Roasters achieved 100% carbon neutrality through the purchase of carbon offsets for 9,823 tons of direct greenhouse gas emissions in Fiscal Year 2005 and for 10,555 tons in 2006. A reduction in electrical consumption was achieved by converting 400 watt High Intensity Discharge fixtures using metal halide lamps. These lamps ran 24 hours a day seven days a week.

Over a period of a few months, the company converted the lamps to High Output T5 fluorscent fixtures using 240 watts per fixture. They replaced 138 fixtures in the plant, saving 22,080 watts per hour, or about 200,000 kW a year. This will save about $18,000 in energy costs – with a consequent reduction in the generation of greenhouse gases. Also, in 2006 Green Mountain Coffee Roasters introduced a new eco-friendly cup that utilizes a corn-based liner. The new eco-friendly cup will help coffee drinkers to help avoid the consumption of nearly a quarter of a million pounds of non-renewable petrochemical materials every year – and allow the cups to more readily decompose.

- Green Mountain Power has managed its power supply resources to minimize effects on the environment, with a particular focus on reducing air emissions. Presently, Green Mountain Power generates electricity without any coal, and only 1.8% percent of generation is from fossil fuels. Recent initiatives guided by their Corporate Responsibility report include the augmentation of its fleet with seven gas/electric hybrids, vehicles getting more than 15 miles per gallon better than the vehicles they replaced. Green Mountain Power's anti-idling guidelines help to minimize unnecessary diesel emissions and in 2005 the company converted to a 20% biodiesel mix for their larger vehicles. Employees work in an open work area that fosters transparency and communication throughout the organization. This has reduced energy consumption through the use of natural lighting and smaller work spaces. In 1995, Green Mountain Power consumed 1,400,225 kWh to operate its company headquarters. This compares with 868,600 kWh for 2005. In 2005 Green Mountain Power diverted approximately 7.5 tons of petroleum-contaminated soil and debris from the conventional hazardous waste stream for treatment at the Berlin Landfarm. Landfarming Petroleum-Contaminated Soils uses bio-remediation to treat soils that are less than 5% total petroleum hydrocarbons by weight. The process includes amending the soil with organic material (cow manure), tilling and natural aeration. The soil is treated until it tests clean.
- At IBM Burlington an ongoing focus on chemical use reduction and waste generation in the manufacture of semiconductors resulted in significantly reduced usage of two high volume solvents and completely eliminated the need for two specific solvents. The four projects resulted in significant chemical cost savings of $722,000 per year and reduced solvent waste by 37,530 gallons per year. The reduction and elimination in the use of these solvents at the IBM Burlington facility will also result in reducing the process emission of VOCs at the facility significantly. In addition there were business-sustainability benefits from some of the process conversions. The new polyimide resist strip greatly reduced finished wafer defects resulting in higher product yield at an estimated cost savings of $1.3 million per year. This process conversion also resulted in savings in the raw process times which are a critical factor in wafer manufacturing. The conversion of NMP to De-Ionized water shortened process times by 50%, while still demonstrating equivalent process yields.
- In March of 2004 Stillwater Graphics targeted making its prepress department completely chemistry free and to cut its generation of hazardous waste to zero. This goal was achieved in 2006 by installing a computer to offset printing plate making system. Stillwater also converted to a proofing system that generated ink jet printed proofs making it possible to recycle both the paper from the discarded proofs and empty ink cartridges.
- As pioneer of the Cow Power program developed by Central Vermont Public Service the Blue Spruce Farm converts manure into methane that is used to generate electricity. The reduced methane emissions on the farm produce an annual environmental benefit equivalent to removing 3,500 metric tons of carbon dioxide from the atmosphere annually. That is equal to 18 rail cars of coal not burned, or a 2,900-acre pine forest's ability to absorb CO_2. Each adult cow produces some 30 gallons of

manure per day, which in turn produces enough electricity to keep two 100-watt light bulbs burning perpetually. Blue Spruce Farm generates 1.2 million kilowatt-hours of methane-based electricity per year. To date CVPS has enrolled nearly 3,000 customers in the Cow Power program.

- In 2006, the Advanced Placement Environmental Science students at North Country Union High School, under the direction of AP Environmental Science teacher, David Smith, applied the scientific method in a real world situation in order to assess the health of a lotic or flowing water body and its aquatic inhabitants. Hypotheses were construed and tested using the samples they collected and the data they analyzed. In particular, students were surprised to realize the especially high levels of phosphorus, a common limiting nutrient, coming to the river – and thus to Missisquoi Bay as well – from agricultural fields. In addition to the water quality studies, students stabilized an eroding stream bank with a tree planting, they mentored younger students teaching them about their local environment, and they made presentations of their project's conclusions to members of the Missisquoi River Basin Association, the school community, and to the larger community as well.

The **Special Youth Environmental Citizenship Award** is given for projects accomplished by a young person or young people that achieve significant positive environmental outcomes. This year we honor two award recipients in this category.

- **Andrew Matt** -- ***The Great Duxbury Tire Pull***

Leading people in a direction their natural proclivities wouldn't normally take them is a sign of real leadership – and the power of great idea. Andrew Matt, an Eagle Scout candidate, organized a clean-up now dubbed The Great Duxbury Tire Pull. Enlisting the help of numerous community members and having targeted a swath of land near the Crosset Brook Middle School for clean-up Andrew worked with the Mad River Solid Waste Alliance, the town of Duxbury, the Moretown Landfill, Brown's Metal Salvage and others to build the partnership necessary to get the work done.

Over the weekends of April 29 and May 6 Andrew led a group of 25 volunteers including community members and fellow Boy Scouts in stacking 7.71 tons of discarded tires and cleaning up around the site. In addition, the Duxbury Road Commissioner used a bucket loader to collect 1 ton of metal, including abandoned appliances, rolls of metal wire, various car parts and other metal waste, and three rusted pieces of farm equipment and the shell of a 36 passenger school bus circa 1950s. Broken glass, old televisions, discarded sinks and pieces of rubber were also collected and either recycled or disposed of properly.

Following the clean-up, the Crosset Brook Middle School incorporated the site and clean-up activities into a special environmental unit called the "Change the World Project". Andrew's Great Duxbury Tire Pull has, in effect, provided the school with an outdoor laboratory attesting to what young Vermonters can do to change the world. By restoring and reclaiming an area once used as a dump site, Andrew reminds us of the need to take personal responsibility for environmental protection – and how one person can make a BIG difference in helping to change the world!

- **Katie Feldman** – ***Save the Salamanders!***

All around the world, amphibians -- frogs, toads, and salamanders -- are in trouble. Their numbers are decreasing rapidly, and many are being born with deformities. Scientists are still unclear why this is so -- although some likely reasons are water contamination by fertilizers and pesticides, and increasing levels of ultra-violet light.

That's the bad news. The good news is that here in Vermont; there are people who care…an awful lot! Katie Feldman, a 17 year-old from Middlesex and currently a student at Wesleyan, is founder of Save the Salamanders! For many years now Katie has organized local residents to protect vulnerable salamanders as they migrate across dangerous roadways from their upland habitat to their spawning grounds in vernal pools. By slowing – and sometimes stopping – traffic, Katie and others have been able to scoop up salamanders that would otherwise likely become road kill.

As a successful applicant for a Think Outside the Box Environmental Grant from the Vermont Agency of Natural Resources, Katie developed and produced a DVD, "*Save the Salamanders! A Five Step Program for Environmental Advocacy.*" The DVD (and accompanying website at www.savethesalamanders.org) help to create awareness of the annual spring migration of the Eastern Spotted Salamander, of the resulting road kill, and how anyone can start her or his own local Salamander Road kill Reduction project. The DVD has resources for teachers in an Educators section of the disc and provides enough general information to serve as a guide to creating an environmental advocacy project of any type.

In her own words: "Although physical conservation efforts will be directed towards migrating salamanders, my underlying motive is to interest people in the environment and in environmental advocacy. By providing an established strategy for project development and replication, I hope to show people that they can make an important and tangible difference in saving our environment, as well as to foster interaction and cooperation among interested individuals and communities. As people become involved with *Save the Salamanders!* they will come to realize that they really can accomplish something, and that no matter how small, it is important and possible to be an effective force for conservation."

Alright, so why *did* the salamander cross the road? Yes, it's to get to the other side, but not without a little help now and then from someone who really cares. Now that Katie is away from home at college, her younger sister, Lily, has taken over the project.

The next award category is for **Environmental Excellence in Education & Outreach**. Award recipients in this category all worked creatively and tirelessly to inform and educate Vermonters about environmentally responsible practices or empowered citizens to enhance the quality of the environment for local, regional or global communities. This year we honor four award recipients in this category.

- **Chittenden County Regional Stormwater Education Program** – ***Increasing Stormwater Awareness & Changing Behaviors through Social Marketing***

Stormwater runoff occurs when water from rain or snowmelt flows over the ground. Stormwater can pick up pollutants such as oil and grease, chemicals, nutrients, metals and bacteria and flow into stormwater systems or directly to the lake, streams, rivers or wetlands. Anything that enters the stormwater system is discharged untreated into the waterways we use for swimming, fishing and providing drinking water.

The Chittenden County Regional Stormwater Education Program is a collaboration among 12 municipal and state entities focused on increasing awareness and changing behaviors through social marketing. The collaborative worked with a local marketing firm to craft a communications and marketing strategy based on the results of a 2003 public stormwater awareness survey. By identifying obstacles to changing behavior and strategies to address and overcome these obstacles the partners have worked to promote lifestyle and behavior changes necessary to protect water quality. Their research helped them identify and develop educational materials for a broad audience, including those they call; Neat Neighbors, Fix-It Foul Ups, Preoccupied Polluters, and Prove-It-To-Me Polluters.

The Chittenden County Regional Stormwater Education Program employs a combination of television, radio, print ads, and a Website, as well as educational events, to distribute messages linked to specific stormwater problems, such as pet waste, home projects, toxic chemicals, car washing, soil erosion, and fertilizer overapplication. While the partners in this effort are required by Federal law to implement an education and outreach program they were not required to collaborate on a regional partnership, thus they have significantly exceeded the minimum necessary requirements for education and outreach.

The Chittenden County Regional Stormwater Education Program has proven that by making small changes in daily habits, we all can help keep pollutants out of stormwater.

- Office Environments, Inc. – *Office Environments Business & Design Resource Center Project: 5 Green Tree Place*

Mahatma Gandhi once reminded us that we must become the change we wish to see in the world. Many of us know of those who talk the talk, but often find it more difficult to suggest someone who actually walks the talk.

Located in South Burlington at 5 Green Tree Place, Office Environment's new Business and Design Resource Center illustrates new concepts in sustainable interior construction and design including under floor heating ventilation and cooling systems, movable wall systems, daylight harvesting, and integrated lighting and control systems. Designed in conjunction with Neagley and Chase Construction, Swaney Lighting Associates, Light Space Design, Haworth Architectural Interiors, and Efficiency Vermont, 5 Green Tree Place is an entirely new way to view space – showcasing the latest in integrated interior design concepts. Viewing the workplace as a strategic asset with a dramatic effect on both intellectual capital and the environment, 5 Green Tree Place is the most advanced showroom space on the East Coast and host to numerous events, trade shows, and training seminars promoting better building practices, ergonomic solutions, and sustainable office design.

Established in 1985, Office Environments represents one of the largest portfolios of contract furniture manufacturers in the market today. Serving the Vermont, Northern New York, and Northern New Hampshire Region, Office Environments offers clients a total package of services including design, space planning, ergonomic assessments, reconfigurations, delivery and installation. From single person offices to corporate headquarters, the company's Interior Consultants and Support Personnel are dedicated to assisting clients in getting more out of their office environment - providing interior solutions that can enhance productivity, foster creativity, increase efficiencies and to achieve both economic and environmental goals -- simultaneously.

The intent of the project was to demonstrate to the mainstream business community that sustainable design is more than a potentially expensive "green" concept. When planned for properly, and with the appropriate partnerships, it can have a dramatic impact on a variety of factors that directly influence a companies "bottom line." By recognizing the interconnected relationships among people, business, and the environment, sustainable design is more than a corporate responsibility – it makes good business sense.

The building is anticipated to offer cost savings of 46% on heating; 32% on air conditioning; 38% on electrical use; with total energy use going from 20.87 to 11.87 kW/ft^2 as built. The result: an estimated first year energy savings of $10,400 and an estimated simple payback period of 3.4 years. In addition, 5 Green Tree Place acts as a case study for high performance interiors, illustrating products that are 95% recyclable, 98% reusable, and completely modular, thus facilitating change, not hampering it.

In sum, the concepts initiated and savings realized both in the construction of the building and the long term operation and use of the building illustrate the company's comittment to sustainable design practices that go beyond fringe elements and ideals, but appeal directly to the mainstream business community - both environmentally and economically.

- **Sterling College/Food Services** – Dining Services & Farm Collaboration: Bringing Local Foods to our Tables

Sterling College, located in Craftsbury Common, is a private, four-year college that specializes in environmental studies. The College offers the Bachelor of Arts degree in Conservation Ecology, Northern Studies, Outdoor Education and Leadership, and Sustainable Agriculture. The curriculum integrates research and discussion, field studies, culture and history, and the dynamics of human relations in a learning environment that combines traditional academics with experiential, hands-on learning – a philosophy that has been further distilled to the simple phrase, "working hands ¤ working minds".

Since its inception as a college in the late 1970s, Sterling has modeled appropriately scaled sustainability practices, from campus-wide recycling to energy efficiency, from utilizing local resources to a composting system integrating the college kitchen and the campus farm.

The mission of Sterling College's Food Service program is to manage the food system as an integral part of the college's educational programs by demonstrating a walk-the-talk philosophy. Aligning with this mission, the Kitchen supports the partnerships between chefs and Vermont farmers through a membership with the Vermont Fresh Network. Fulfilling its mission, the Sterling Kitchen develops a menu that makes best use of Sterling-grown, organic, and local foods when available. The Kitchen serves healthful, nutritious foods that are pleasing to diners and provides a comfortable dining environment. Food is chosen, prepared, and served in an environmentally conscientious manner. All food and kitchen waste is composted on the college's farm site. Additionally, kitchen staff educates students and other community members about the effects of their food choices on the environment and on nutrition.

Currently, Sterling operates with a kitchen manager, two cooks, and student workers who do everything from harvest vegetables, contact local growers, preserve foods, cook meals, and wash pots. Sterling College has an acre of organically-certified vegetables as well as a farm with diversified livestock including poultry, sheep, steers, and pigs. The farm and gardens are run under the direction of a Farm Manager with most of the labor being done by students, either in the Summer Farm Semester or as part of the College Work Program during the school year. Produce is grown, harvested and processed by students and given to the kitchen. Meat raised on campus is processed at a USDA-certified facility, which is paid for by Dining Services.

In 2005, kitchen staff and students put up nearly 3,800 pounds of their own produce at an estimated value of about $8,800, and over 1,200 pounds of their own meat, at a value of over $2,600. They also made their own maple syrup, producing approximately 50 gallons in 2006. In addition, the kitchen purchases produce, eggs, apples, apple cider, yogurt, dry beans, wheat flour, beef, cheeses, butter, ice cream and milk from a variety of local sources. The kitchen composts all food wastes, both pre and post-consumer, as well as the unbleached napkins used in the dining hall. On average, 2,000 pounds of food waste each month is diverted from the conventional waste stream by sending organic waste to the composting system.

Food is a critical part of our well-being, and food issues integrate many important concepts such as local economy, waste prevention, land-use protection, and nutrition. Sterling College is preparing students for a future that will of necessity likely become more familiar to many of us – a more healthy and more environmentally sustainable future.

- **Yestermorrow Design/Build School** – Curriculum Concentration in Sustainable Design and Construction

The Yestermorrow Design/Build School, located in Warren, offers over 100 hands-on courses per year in design, construction, woodworking, and architectural craft and offers a variety of courses concentrating in sustainable design. Yestermorrow is one of the only design/build schools in the country, teaching both design and construction skills.

The Yestermorrow Design/Build School was founded in 1980 on the belief that the best built environment depends on the joint cooperation of designers, builders and homeowners. The school aims to empower people to unleash their creative spirit by researching, preserving and teaching the integrated design/build process. The name Yestermorrow is a synthesis of yesterday's dedication to craft and beauty in the making of a built environment with tororrow's vanguard technologies, materials and lessons learned about the environmental impacts of our actions on the present and future. This synthesis is achieved through Yestermorrow's design/build approach to architecture and through the connection between hand and mind that unfolds in the design/build process. By teaching students to express their values and lifestyle through this process, the school fosters a self-awareness that reconnects people to their communities, their natural environment, and to each other. They help create healthy, sustainable communities by helping people to take steps to "make their own place."

For more than 25 years now Yestermorrow has taught students how to reduce global and local ecological impacts by creating environmentally responsive and sustainable architecture. Though the educational goal is to incorporate sustainable building and design throughout the curriculum, several courses are more heavily concentrated on the issue of sustainability. Balancing theory with hands-on practice, students have the opportunity to explore alternative, innovative, and experimental design and building methodologies and materials.

Yestermorrow's Concentration in Sustainable Design and Construction includes courses that teach hands-on skills which help students of all ages and backgrounds design and build environmentally-responsible homes and sustainable communities. Such courses include, for example: Green Home Design, Green Remodeling, Installing an Independent Solar Power System, Solar Site Design, Permaculture Design Certification, Biofuels, Deconstruction and Materials Re-Use, Introduction to Cob Building, Strawbale Design/Build, EcoCommunity Planning, Microclimate Design, Solar Design, Resource and Energy Efficiency, and The Super-Insulated Home, among others.

Yestermorrow empowers people to create an inspired built environment that helps to sustain the natural environment. As such, the principle of sustainability is considered a fundamental element of "good design," and is naturally treated as such in course curricula and in the overall culture of the School, which is an integral part of a student's total Yestermorrow expereince. In 2006, Yestermorrow also partnered with the US EPA Region 1 and ReCycle North to create an innovative pilot program to train non-profits in the field of deconstruction and materials re-use, with the overall goal of reducing construction and demolition waste.

The next award category is for **Environmental Excellence in Resource Conservation**. Award-winning projects in this award category served either to conserve resources and protect the environment by minimizing resource consumption or by applying the strategies of reuse or recycling. This year we honor two award recipients.

- **Tony Barbagallo** – Chittenden Solid Waste District's Single Stream Materials Recovery Facility

The Chittenden Solid Waste District provides efficient, economical, and environmentally sound management of solid waste generated by residents and businesses within its member towns and cities. The District offers a wide range of solid waste services including the collection and proper management of unregulated hazardous waste, drop-off centers, waste reduction programs, school and business outreach programs, and assistance with special wastes. With a population of more than 145,000 people, the Chittenden Solid Waste District is the largest solid waste district in Vermont.

In April of 1993, recycling became mandatory for all residents, businesses, and institutions in the District and in 2005, the most recent year for which data are available, recycling efforts kept over 72,000 tons of material from being wasted in a landfill.

Tony Barbagallo is the Facilities Manager for the Chittenden Solid Waste District. As such, Tony was responsible for making the District's single stream Materials Recovery Facility a reality. In the business these facilities are better known by their acronym as MRFs (MERFs). Designed to sort and prepare for shipment undifferentiated recyclables Chittenden's MERF is the first one of its kind in New England.

It has made curbside recycling both more economical and more convenient. The productivity at the MERF has increased substantially and consequently, the District has reduced processing costs and passed the savings on to customers. Local haulers are very pleased that the new sytem has lowered their cost to collect recycling materials saving both money and fuel consumption by using a typical refuse compactor for recycling. The improved economics and greater convenience has yielded greater annual throughputs at the MERF going from 23,000 tons per year prior to single stream implementation to 36,000 tons in 2006. The District is now approaching 65% capture rate for newspaper and other fibers because of the collection efficiencies and simplicity of single stream recycling.

Chittenden's MERF acts as a regional facility that accepts recycling materials from both private and public entities from Chittenden county and the surrounding counties of Franklin, Grand Isle, Addison, Washington and Lamoille.

Recycling, as a waste management strategy, increases the efficiencies of materials already in the marketplace - it preserves resources and saves energy. Tony Barbagallo exemplifies the dogged determination needed to see a large project through from concept to completion.

THE UNIVERSITY OF VERMONT

- **The University of Vermont/Physical Plant Department** – Energy Efficiency Program

Partnership and collaboration are often the hallmark of a synergistic effort that accomplishes much more than would be expected of any single entity. Such is the case with the University of Vermont, Physical Plant Department's efforts to improve energy efficiency on campus.

The University of Vermont, the state's flagship institution of higher education, is a small research university with an emphasis on liberal arts, environment, and health. About 10,000 students and 3,000 faculty and staff occupy about 4 million square feet of building space on the 430-acre main campus. Energy use for heating, cooling, and powering the campus totals 57 million kilowatt-hours and 546 billion British thermal units per year, costing close to $9.5 million in fiscal year 2005.

The Burlington Electric Department is a municipal electric utility committed to offering its customers high-quality energy services and a secure, environmentally sound supply of electricity into the future. Energy efficiency plays a major role in achieving this goal, and is increasingly its cornerstone. In the city as a whole, annual electricity consumption was just 2% higher in 2005 than it was in 1989; the needs of Burlington's growing economy over the last 17 years have been met with energy efficiency rather than generation. These energy efficiency investments save Burlington consumers almost $6.7 million of retail electric costs annually.

Vermont Gas Systems supplies natural gas to more than 39,000 customers in Chittenden and Franklin Counties. As part of its commitment to the efficient use of energy, Vermont Gas has offered "Demand-Side Management" programs to both residential and commercial customers since 1992. Efficiency programs include residential and commercial retrofits, new construction, and equipment replacement programs.

UVM's Energy Management Office in the Physical Plant Department targets, facilitates, and monitors efficiency projects. Funding has come from a $125,000 revolving loan fund established in 1992 and subsequent bonds totaling $3.25 million, and from taking longer term and life cycle costs into account in new building construction. The work done by UVM addresses a wide variety of energy end uses including motors, drive applications, lighting, heating, ventilation, air-conditioning, and control systems. The overall investment in efficiency at UVM has allowed the campus to improve ventilation, increase the intensity of

building use, and to add air conditioning while using almost the same amount of energy for heating, cooling, and power per square foot in 2005 as in 2000.

Since the University of Vermont established an energy policy in 1990, projects in energy efficiency and smarter energy use have avoided millions of dollars in electricity, heating fuel, and water costs. Efficiency projects in 2000-2005 saved an estimated 2,924,000 kWh and 2.2 billion British thermal units, totalling $2,460,000 in electric savings and $1,997,000 in natural gas savings over the six year period. UVM efficiency measures also reduced peak demand for power by 330 kilowatts, of which 55% were in summer when electric power is most expensive, thus helping control costs for the entire city of Burlington.

The energy efficiency projects at UVM resulted from a commitment to long-term, close collaboration with the Burlington Electric Department (in partnership with Efficiency Vermont), and Vermont Gas Systems, which provide both rebates and technical assistance for energy efficiency and conservation. The funding structure and collaborative relationship is the subject of frequent inquiry from other institutions seeking to incorporate efficiency into their way of doing business to reduce costs and environmental impacts.

The University of Vermont has been actively participating in Vermont Gas Systems' energy efficiency programs since 1994, shortly after the inception of the programs. The University has saved over 53,200 Mcf/yr in natural gas, or almost half a million dollars per year in gas costs. These savings will only increase as UVM also has energy conservation measures in place that are estimated to save an additional $150,000 per year of natural gas. These savings do not even include the many gas saving measures that UVM initiated and is implementing without the involvement of Vermont Gas. It is estimated that more than 1,108,770 Mcf of natural gas is being saved over the life of these installed measures, representing almost $10,000,000 in savings.

That investment in energy efficiency pay off with dividends in the short- AND in the long-terms is clear. The partnership between UVM, the Burlington Electric Department, and Vermont Gas Systems scores benefit for both the environment and the university's bottom line – and reminds us of the imperative to collaborate.

The next award category is for **Environmental Excellence in Pollution Prevention**. Award recipients in this category implemented projects that reduced or eliminated the generation of pollutants and wastes at the source – before it was ever generated. This year five award recipients are honored.

- **The Blodgett Oven Company** – Mercury Reduction Project

Blodgett Ovens, a Governor's Award recipient in 1999, is headquartered in Burlington and employs 300 Vermonters. Blodgett is an industry leader in the manufacture of high quality convection, deck, pizza and conveyor-style commercial ovens and steamers. The company began operations in 1848 and today operates three manufacturing plants in the greater Burlington area.

Because of the ever increasing awareness of mercury-product regulation, especially in the Northeast, Blodgett Ovens became aware of mercury use in the manufacture of their ovens. As part of a reporting process to the states, Blodgett identified the amount of mercury actually used in the relays and flame sensors within their products and with this realization established a goal to eliminate mercury from their ovens. Blodgett sought out alternative component products that would effectively function the same as the mercury-containing components without jeopardizing the integrity or the quality of their ovens.

The majority of products that contain mercury in Blodgett ovens are mercury contactors and gas safety valve controls. A mercury contactor is a high current relay. Here, mercury prevents the contacts from welding closed. A gas safety valve control is used to prevent an oven from overheating. This safety device has a capillary tube that contains mercury. The mercury expands when heated and closes the integral gas valve when a high limit temperature is reached. Blodgett has identified and incorporated mercury-free alternatives to both these devices.

By eliminating the use of mercury-containing contactors and gas safety valve controls, Blodgett has reduced its use of mercury from 2004 to 2005 by 61%, which equates to a reduction of aproximately 1,040 pounds of mercury. In calendar year 2006 the reduction is projected to be an additional 28%. Overall by the end of calendar year 2006 Blodgett anticipates an 89% reduction in total mercury use at its facilities which equates to a reduction of approximately 1,225 pounds. Blodgett continues to explore additional opportunities to reduce its use of mercury by pursuing alternatives for the remaining product lines.

Blodgett Oven's leadership came in advance of legislative mandates. Consequent to its efforts to eliminate use of mercury-containing components, Blodgett has since realized economic benefits as well as the environmental, health, and safety benefits. On average, savings amounted to $12.50 per component and saved the company approximately 2.7 million dollars in one year alone.

Once again, Blodgett shows that pollution prevention pays – in many ways!

- **Green Mountain Coffee Roasters** – Engine Idling Reduction, Highbay Lighting Project, and the Eco-Friendly Cup

Green Mountain Coffee Roasters, with its headquarters in Waterbury, was recently ranked No. 1 on Business Ethics magazine's list of "100 Best Corporate Citizens." It is a leader in the specialty coffee industry and offers over 100 coffee selections that it sells under the Green Mountain Coffee Roasters® and Newman's Own® Organics brands. Each year the Company contributes at least five percent of its pre-tax profits to support socially responsible initiatives. Based on its performance, Green Mountain Coffee Roasters has been recognized for the past six years as one of Forbes Magazine's "200 Best Small Companies," and for the past two years as one of the Society of Human Resource Management's "Best Medium Companies to Work for in America."

Green Mountain Coffee Roasters believes in environmental and social Stewardship®. With regard to environmental protection, the company holds the following environmental commitment core values:

1. In every decision, consider the environmental impact of our actions.
2. Encourage a spirit of continuous environmental innovation in our products, practices and programs.
3. Foster and promote programs that increase levels of employee environmental awareness and participation.

One manifestation of these core values is found in recent efforts to reduce greenhouse gas emissions generated by their fleet of 24 delivery trucks. Compiling data from each truck using the engine control modules helped them to realize that the diesel engines were being idled 30% of the time. It was further determined that drivers idled out of habit and because of misconceptions about idling diesel engines.

Using information and education as tools and a challenge issued to drivers, Green Mountain Coffee Roasters was able to reduce engine idling by 54%, saving more than $7,000 in fuel costs. One driver even developed a brochure that explained the effects of engine idling as it relates to the environment, our dependence on fossil fuels, and the cost. This brochure has been distributed to employees, other persons outside the company, and to other companies.

Green Mountain Coffee Roasters achieved 100% carbon neutrality through the purchase of carbon offsets for 9,823 tons of direct greenhouse gas emissions in Fiscal Year 2005 and for 10,555 tons in 2006.

A second project endeavored to reduce electrical consumption with more energy-efficient lighting in the company's manufacturing plant. Here, lighting was provided by 400 watt High Intensity Discharge fixtures using metal halide lamps. These lamps ran 24 hours a day seven days a week. Over a period of a few months, the company converted to High Output T5 fluorscent fixtures using 240 watts per fixture. They replaced

138 fixtures in the plant, saving 22,080 watts per hour, or about 200,000 kW a year. This will save about $18,000 in energy costs – with a consequent reduction in the generation of greenhouse gases.

Lastly, in 2006 Green Mountain Coffee Roasters introduced a new eco-friendly cup. Every year, Americans drink more than 100 billion cups of coffee. Of those, 14.4 billion are served in disposable paper cups – enough to wrap the earth 55 times if placed end-to-end! These paper cups contain a plastic lining made from a petrochemical that would produce enough energy to heat 8,300 homes.

The new cup is designed with a lining made from corn instead of petrochemicals. By choosing to utilize a corn-based cup liner, Green Mountain Coffee Roasters will empower coffee drinkers to avoid the consumption of nearly a quarter of a million pounds of non-renewable petrochemical materials every year. For 25 years, Green Mountain Coffee Roasters has said its coffee is "crafted with care." Now, more than ever before, so are its cups.

- **Green Mountain Power Corporation** – Berlin Landfarm for Treating Petroleum-Contaminated Soils, Corporate Environmental Responsibility Reporting

Green Mountain Power, with nearly 200 employees, is headquartered in Colchester and serves 90,000 customers in nine counties and 122 different communities. The company sells electricity and energy services and products to approximately 25% of Vermont's retail electricity customers, and serves half of the state's 14 counties. Green Mountain Power also sells wholesale electric power in New England and provides operations services to other utilities in Vermont.

Green Mountain Power has managed its power supply resources to minimize effects on the environment, with a particular focus on reducing air emissions. Presently, Green Mountain Power generates electricity without any coal, and only 1.8% percent of generation is from fossil fuels. Purchases on the New England wholesale market account for 9.6% percent of their power mix and cannot be broken down into fuel source, but certainly contain some fossil fuels. However, forty-eight percent of Green Mountain Power's energy comes from renewable resources - hydro, wood and wind.

Besides managing its energy mix to be as green as possible, the company also works to manage its operations as lean and green. One tool the company effectively uses to achieve the triple bottom line of economic, environmental, and social excellence is its Corporate Responsibility report, published in 2005 and most recently in October, 2006.

Incorporating Global Reporting Initiative guidelines, these Corporate Responsibility reports describe the environmental, social and financial dimensions of Green Mountain Power's operations. The report is used primarily to guide decision-making for such things as purchasing, investing in technology, policy making, and setting environmental goals.

Recent initiatives guided by the Corporate Responsibility report include the augmentation of its fleet with seven gas/electric hybrids, vehicles getting more than 15 miles per gallon better than the vehicles they replaced. Green Mountain Power's anti-idling guidelines help to minimize unnecessary diesel emissions and in 2005 the company converted to a 20% biodiesel mix for their larger vehicles.

Employees work in an open office space that fosters transparency and communication throughout the organization. This has reduced energy consumption through the use of natural lighting and smaller work spaces. In 2005, Green Mountain Power used only 62% of the electricity to run its corporate headquarters than it did 10 years ago.

In 2005 Green Mountain Power diverted approximately 7.5 tons of petroleum-contaminated soil and debris from the conventional hazardous waste stream for treatment at the Berlin Landfarm. Landfarming Petroleum-Contaminated Soils uses bio-remediation to treat soils that are less than 5% total petroleum hydrocarbons by weight. The process includes amending the soil with organic material (cow manure), tilling and natural aeration. The soil is treated until it tests clean.

Green Mountain Power has not applied herbicides in their rights-of-way since the mid-1980s, relying instead on hand and power tools and light duty machinery to remove undergrowth. The company is currently exploring the application of a fungus that obstructs the growth of vegetation within the right-of-way.

In April 2006 the Vermont Businesses for Social Responsibility named Green Mountain Power "Large Company Leader of the Year."

- **IBM (Burlington) Photolithography & Wafer Clean Operations Team** – Solvent Usage Reduction & Elimination Projects in Wafer Manufacturing Operations

With this, our fourteenth annual Vermont Governor's Awards ceremony, IBM retains the distinction of being the only company to receive a Governor's Award for Environmental Excellence each year since the award program's inception in 1993. This year we recognize the work done by the Photolithography & Wafer Clean Operations Team on solvent use reduction and elimination in their wafer manufacturing operations.

IBM Burlington, part of the IBM Microelectronics Division, designs and produces, logic, microprocessor, memory and custom microchips used by leading electronics and computer companies worldwide.

An ongoing focus on chemical use reduction and waste generation in the manufacture of semiconductors resulted in significantly reduced usage of two high volume solvents and eliminated the need for two specific solvents and improved process yield and wafer manufacturing parameters.

Photolithography is a key process in the production of semiconductors. A photoactive based polymer called photoresist, dissolved in a solvent or solvent mixture, is applied to silicon wafers and exposed to light projected through a photo mask to define device geometry such as circuit lines. Solvents are used for prewetting the wafers to reduce the amount of photoresist applied and for wafer rinse applications to remove excess photoresist. To protect the completed chip from the environment, organic polyimide coatings are applied prior to packaging the chip for use on a circuit board.

The four projects undertaken at IBM resulted in significant chemical cost savings of $722,000 per year and reduced solvent waste by 37,530 gallons per year. The reduction and elimination in the use of these solvents at the IBM Burlington facility will also result in reducing the process emission of VOCs at the facility significantly. In addition there were business-sustainability benefits from some of these process conversions.

One project involved simply turning off a second solvent apply nozzle on 20 photoresist apply tools – resulting in a reduction of solvent used in this process by 50%, saving 15,330 gallons per year and $123,000 in chemical spending annually.

A second project served to simply address solvent use by reducing the volume used in the process. This volume reduction did not affect the cleaning process and reduced usage by 6,000 gallons per year and a savings of $206,400 in chemical spending per year. In addition, the chemical reduction eliminates the need to dispose of 200 empty chemical containers each month.

The third project focused on NBA, a flammable solvent used to remove cured photoresist in photolithographic processes. Here a plasma etch process was qualified to remove photoresist in place of NBA in certain applications, and in another process NBA was replaced with a non-flammable alternative. This effort completely eliminated the need for pure NBA in IBM Burlington, eliminating 3,000 gallons per year and saving $8,610 in chemical spending annually. Use of the new solvent greatly reduced finished wafer defects resulting in higher product yields at an estimated cost savings of $1.3 million per year. This process conversion also resulted in savings in the raw process times, which is a critical factor in wafer manufacturing.

The final project involved a wafer cleaning process that used a high purity grade of the NMP solvent. Here, NMP was completely replaced with deionized water. The change, completed in 2005, eliminated usage of twenty 55 gallon drums per month of the high purity NMP and saves $384,000 in chemical spending annually.

- **Stillwater Graphics, Inc.** – Greener Printing: Elimination of Hazardous Waste Generation in Prepress Operations

Stillwater Graphics, located in Williamstown, is a family-owned commercial printing business that prints everything from business cards to full color annual reports. The print shop employs 8 full time employees in addition to the two co-owners, Susan and Greg Lancey.

In its environmental policy statement Stillwater Graphics pledges to minimize the environmental consequences of their business operations. Thus they take seriously their responsibility and role in fostering and promoting sound environmental management.

In March of 2004 Stillwater Graphics targeted making its prepress department completely chemistry free and to cut its generation of hazardous waste to zero. This goal was to be reached by installing a computer to offset printing plate making system. At the same time Stillwater planned to convert to a system that generated ink jet printed proofs. In this way the paper from the discarded proofs as well as the empty ink cartridges could be recycled.

Susan and Greg's first attempt to actually make the transition to this newer print technology was frustrated by a then necessary trade-off of between the elimination of chemicals (which they wanted) and a much larger demand for electricity (which they didn't want). They decided that the available technology did not yet allow them to meet the environmental goals they'd set for themselves.

Two years later, in 2006, Susan and Greg finally found a computer to plate making system that met all of their criteria. The printer now used at Stillwater Graphics produces no hazardous waste and is very energy efficient. The plate setter saves a huge amount of unnecessary hard copy proofing material and uses a thermal technology that eliminates the need for constant service and maintenance.

The state-of-the-art technology in Stillwater's new plate making system attests to the value of setting long-range environmental goals, to patience, and to persistance. Here, the effort appears to have been worth it; scoring benefits for both the environment and a small company's bottom line.

The next award category is for **Environmental Excellence in Environmental Stewardship & Resource Protection**. Award recipients in this category implemented projects with measurable and direct benefits to air, land or water – or fish, wildlife and human communities dependent upon a clean and healthy environment. This year we honor two award recipients.

- **Central Vermont Public Service** – CVPS & Audet's Cow Power

Central Vermont Public Service is Vermont's largest electric utility, serving more than 151,000 customers statewide. In addition to traditional utility services, the company owns a small water heater rental business. CVPS, which is based in Rutland, has 540 employees across the state. Audet's Cow Power is a subsidiary of Blue Spruce Farm Inc., a family operated dairy farm in Bridport. The farm is run by Earl, Eugene and Ernie Audet and their families.

CVPS Cow Power is a renewable manure-to-energy program that provides consumers with a clean energy choice and farmers with significant financial return, while simultaneously providing substantial environmental benefits through improved manure management that virtually eliminates odors, protects water quality, and reduces greenhouse gas emissions.

Customers support this renewable energy source by agreeing to pay a premium for cow power-derived energy. The Audets are the first CVPS Cow Power producers, pioneers among Vermont farms who have given tirelessly of their experience to help educate the public and other farmers about Cow Power's potential.

The process of generating Cow Power is relatively simple: Manure is collected in an enclosed tank, rather than stored in an open-air lagoon. The manure is processed in a three-week journey through the concrete tank on the farm. Bacteria "digest" the manure, much like an extension of the cow's stomach. Biogas, which is roughly 60 percent methane gas produced by the bacteria, builds up at the top of the tank and a pipe delivers it to a modified natural gas engine. The gas is used to power the engine generating electricity, which is delivered to the CVPS electrical system.

In addition to the 4-cent premium, farm producers receive 95 percent of the local market price for the energy they produce, providing a second, significant income stream. Farmers can also use dry solid by-products of the digestion process as a replacement for sawdust for cow bedding, saving tens of thousands of dollars per year. Excess solids can be sold to other farms for bedding, or composted for sale as a soil supplement for gardeners. Waste heat from the generator can be used to heat water for the milking parlor, office space or other farm facilities, offsetting fuel purchases. In short, CVPS Cow Power provides substantial economic and air and water quality benefits, while building a market for renewable energy and reducing greenhouse gas emissions.

Farm methane is trapped in the digestor, rather than released into the atmosphere. Methane is a greenhouse gas approximately 20 times more potent than CO_2 at trapping heat in the atmosphere. The reduced methane emissions on Blue Spruce Farm produce an annual environmental benefit equivalent to removing 3,500 metric tons of carbon dioxide from the air annually. That is equal to 18 rail cars of coal not burned, or a 2,900-acre pine forest's ability to absorb CO_2.

The program is "home-grown" by both nature and design. Utilities across the country are attempting to sell renewable energy through customer enrollment. In most cases, however, customers are buying energy generated several states away; there is no real link to the customer, who is supporting a concept, rather than specific generation. CVPS Cow Power is unique in that it creates a very real connection between the generator and the customer, who is choosing to support local farmers in a very real and practical way. To date CVPS has enrolled nearly 3,000 customers in the Cow Power program.

The Blue Spruce Farm is managed by Eugene and Marie Audet, Eugene's parents, his two younger brothers and their wives, and all of their children help out in some way or form. The 2,200-acre farm is home to 2,000 Holsteins and Jerseys, about half of which are milked at any given time. They send 8,000 gallons of milk daily to nearby Montpelier, where Cabot Creamery makes it into cheddar cheese.

Each adult cow produces some 30 gallons of manure per day, which the Audets collect and channel into the microbial digester. Each cow on the farm produces enough manure to keep two 100-watt light bulbs burning perpetually.

Green Mountain College has become Vermont's first cow-powered educational facility. College Provost Bill Throop noted that 50 percent of the power for the school's main campus in Poultney will be from farmers' methane operations. That source will also power all of the school's Killington Campus, the college president's home, a campus farm, an inn, and an alumni facility. Overall, the college expects to use some 1.2 million kilowatt-hours of methane-based electricity per year – which happens to be the amount of electricity Blue Spruce Farm generated just this past year.

- **North Country Union High School** – Missisquoi River Basin Association High School Environmental Monitoring Program

We opened this awards ceremony honoring the environmental contribution of young Vermonters. How fitting, therefore, that we conclude by once again focusing on the accomplishments of those who are both inheriting and shaping the future.

The Missisquoi Bay on Lake Champlain has been a focus of state pollution cleanup efforts largely because of yearly algae blooms the result of natural and cultural eutrophication. Eutrophication can be understood as the addition of plant nutrients, like nitrogen and phosphorus, to an aquatic system. At first glance this

may seem like a good thing; increased nutrient levels result in a more productive aquatic system. Unfortunately, however, eutrophication often has many negative effects on ecosystems affecting both plant and animal life and depleting oxygen in the water. Cultural or human induced eutrophication can significantly affect water quality and is strongly influenced by land use and other activities within a watershed.

In 2006, the Advanced Placement Environmental Science students at North Country Union High School, under the direction of AP Environmental Science teacher, David Smith, partnered with the Missisquoi River Basin Association to help monitor water quality parameters and begin to build a watershed database. Students collected water samples from various stations along the Missisquoi River and conducted water quality tests to determine dissolved oxygen, nitrogen and phosphorus levels, water temperature, biological oxygen demand, pH, turbidity and total solids. In addition, students collected Benthic Macro invertebrates as indicators of water quality and conducted geophysical surveys.

Students applied the scientific method in a real world situation in order to better understand the health of a lotic or flowing water body and its inhabitants. Hypotheses were construed and tested using the samples they collected and the data they analyzed. In particular, students were surprised to realize the especially high levels of phosphorus, a common limiting nutrient, coming to the river – and thus to Missisquoi Bay as well – from agricultural fields.

In addition to the water quality studies, students stabilized an eroding stream bank with a tree planting, they mentored younger students teaching them about their local environment, and they made presentations of their project's conclusions to members of the Missisquoi River Basin Association, the school community, and to the larger community as well.

On my own behalf and on behalf of all Vermonters, let me extend a very personal thank you to each of the award recipients. The environmental excellence you exemplify helps to ensure that Vermont remains the very special place it is.

And now it's also my honor to recognize a Vermont businessperson that has earned the right to be ecognized as a **Vermont Business Environmental Leader** and several Vermont innkeepers whose properties were officially designated **Green Hotels In The Green Mountain State** this year:

Vermont Business Environmental Partnership

The Vermont Business Environmental Partnership is a voluntary, environmental assistance and business recognition program offered by the Environmental Assistance Office of the Vermont Department of Environmental Conservation and the Vermont Small Business Development Center. The Partnership joins efforts of the public and private sectors to achieve environmental and economic goals simultaneously. The goals of the Partnership are to achieve greater environmental and economic performance and to promote public recognition of environmental excellence.

Vermont small businesses joining the Partnership go beyond compliance with existing environmental regulations using pollution prevention strategies and many components of an Environmental Management System. The Vermont Business Environmental Partnership allows participants to be recognized as an Environmental Partner when they achieve a set of core environmental standards and a total of six elective standards.

The following business is recognized as having achieved designation as a Vermont Business Environmental Leader in 2005 - 2006:

- **Smugglers' Notch Resort** (located in Smugglers' Notch)

Smugglers' Notch Resort has been recognized by the Vermont Department of Environmental Conservation and the Vermont Small Business Development Center as only the second *Environmental Leader* designee in the Vermont Business Environmental Partnership. This designation recognizes exemplary environmental management focused on compliance and minimization of the environmental consequences of its operations.

Smugglers' Notch Resort, which is a four season family resort, has methodically examined its operations to identify its environmental impacts, and then developed initiatives to minimize those impacts. For example, Smugglers' Notch has introduced the "Ski Cool" program to offer skiing guests a climate neutral ski experience. To further reduce greenhouse gas emissions, the Resort is enforcing a "No Idling Policy" for resort vehicles and contractors, has begun to use Bio-diesel, and has built all new residential condominiums since 1996 with a 5-star energy rating.

Smugglers' Notch Resort practices water conservation and offers its guest opportunities to recycle, boasting a 15% diversion rate. It also recycles and composts many of the solid wastes it generates. In 2006 it was able to recycle 21 tons of sheetrock scrap from construction projects. In addition to recycling, the Resort closes the loop by intentionally purchasing items made from recycled material and recently adopted a policy that favors the purchase of environmentally preferable products like non-toxic, "green" cleaning supplies. Smugglers' Notch Resort has reduced the amount of hazardous waste it creates, and has banned herbicide use. The Resort is also focused on ongoing tracking of the Bicknell's thrush, a high altitude song bird, and the black bear, including identifying ways to protect and enhance their habitat during ski trail maintenance and in new construction.

The Resort seeks to raise the environmental awareness of guests and employees, and to broaden their knowledge and appreciation through educational programs. As Bill Stritzler, owner and managing director puts it, "At Smugglers' Notch we believe that respect for the environment is more than just a business commitment, it should be a way of life for our employees and our guests."

Vermont Business Environmental Partnership -- Green Hotels in the Green Mountain State

Tourism is already the world's largest industry and, if current trends continue, travel and tourism will soon be the largest industry in Vermont. Lodging is an important segment of this growing industry, providing tremendous diversity and stability to the state's economy. This sector of the economy, more than most however, is highly dependent upon a clean and scenic environment. This is the magnet attracting many visitors to our state – and keeps them coming back. The lodging industry in Vermont, with nearly 20,000 guest rooms, is already one of the greenest in the nation. Vermont innkeepers are recognized nationally as leaders in environmental management and environmental protection.

The following properties are recognized as having achieved designation as **Green Hotels in the Green Mountain State** in 2005 and 2006:

- **Woodstocker Inn** (Woodstock)

Warm, welcoming and full of character, this 1830s house set at the foot of Mount Tom has become a model of environmental stewardship. They offer guests the use of organic soaps, low flow toilets and showerheads as well as compact fluorescent light bulbs installed throughout the home. They have instituted a towel reuse program and recycle extensively.

- **The Inn at the Round Barn Farm** (Waitsfield)

The Inn at the Round Barn Farm has long been known for its romantic rooms, relaxed atmosphere, beautiful setting, and friendly staff. Now it will also be know for its outstanding commitment to the environment and keeping Vermont clean. They have developed and are working to implement a comprehensive environmental management plan focusing on opportunities to recycle, linen reuse and in promoting a "greener" way of life.

- **Tucker Hill Inn** (Waitsfield)

This tranquil Vermont inn, located on 14 acres of woodland, is surrounded by stone walls, patios and colorful gardens. They use environmentally friendly products throughout the inn, guests are made aware of environmental incentives, and they have become energy efficient with the use of compact fluorescent light bulbs, storm windows, regulated thermostats and more. They are yet another great model of an Inn with a self-driven mission toward improving and protecting the environment.

- **Churchill House Inn** (Brandon)

The Churchill family first constructed a small dwelling and mill along the swift-flowing Neshobe River early in the 19th century. The current innkeepers, Seth and Olya Hopkins, have made significant improvements to the inn, installing modern heat in all guestrooms for the first time, replacing the roof, and buying new beds for several rooms. The Churchill Inn is energy efficient and practicing environmental enthusiasts and it is exemplified in the way they run the inn.

- **Norwich Inn** (Norwich)

The Norwich Inn is a year round lodging facility complete with a restaurant and brew pub. The inn offers guests a choice of 27 rooms located in three separate historic buildings. They recycle and compost, offer a linen reuse program, and leftover grain from the brewing operations are donated to a local farm for feed. They are very excited about becoming a Green Hotel and becoming a model for environmental businesses.

Our congratulations and thanks to Governor's Award recipients, to the newest Vermont Business Environmental Leader, and to the managers and staff of properties being recognized this year as **Green Hotels In The Green Mountain State**. We wish you all continued environmental *AND* economic success!

THANK YOU!

Prepared by
The Vermont Agency of Natural Resources
Department of Environmental Conservation
Office of Environmental Assistance
103 South Main Street
Waterbury VT 05671

(800) 974-9559

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