

*Recipients of the 2006 - 2007  
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*



2006-2007 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.*

- **IBM (Burlington) Monitor Core and Chemical Mechanical Polish (CMP) Teams** – Wafer Pattern Removal, Reclaim, and Recycling Projects in Wafer Manufacturing Operations
- **Northeastern Vermont Regional Hospital** – Broad Ranging Environment Friendly Initiatives Undertaken by a Rural Hospital
- **Questech Corporation** – Volatile Organic Compound/Hazardous Air Pollutant (VOC/HAP) Reduction Project

**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.*

- **Smugglers' Notch Resort** – Carbon Footprint Reduction

**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.*

- **Chittenden Solid Waste District** – Innovative Paint Recycling Program

**Environmental Excellence in Land Use & Land Use Planning** - *Projects that preserve or conserve land to create ecological and environmental benefits or that advance smart growth alternatives.*

- **Lake Champlain Chocolates** – LEED Certification at 444 Pine Street

**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.*

- **Donald Knaack/Burr & Burton Academy** – Help Our Planet (HOP)
- **Green Mountain College** – Food, Agriculture, and Community Development in the Northeast

**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.*

- **Chester-Andover Elementary School Student Council** – Student Council Initiated School wide Comprehensive Recycling Program
- **People's Academy (Ashley Brown, Emberly Keith, Brittany Lanphear, and Brandy Hill)** – Greening the Cafeteria



The following business is recognized as having achieved designation as a Vermont Business Environmental Leader in 2006 - 2007:

**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 2006 - 2007:

Sleepy Hollow Inn Ski & Bike Center, Huntington  
So Just Relax, Shelburne  
The Braeside Motel, Woodstock  
The Arlington Inn, Arlington  
Marshfield Inn and Motel, Marshfield  
The Inn at Shelburne Farms, Shelburne  
The Inn at Weathersfield, Perkinsville  
The Old Mill Bed & Breakfast, Brandon  
Willard Street Inn, Burlington

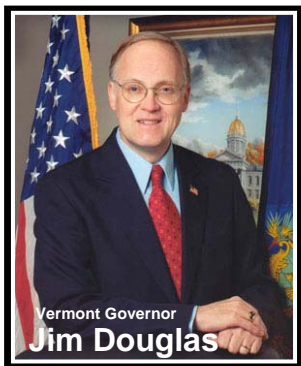
**Chester Vermont Innkeepers Association members:**

The Chester House Inn, Chester  
The Park Light Inn, Chester  
The Hugging Bear Bed & Breakfast, Chester  
Stone Cottage Collectables Bed & Breakfast, Chester  
Popplefields Bed & Breakfast, Chester  
Fullerton Inn, Chester  
Motel in the Meadow, Chester  
Rose Arbour Inn, Chester  
The Williams River House, Chester  
Henry Farm Inn, Chester  
The Old Town Farm Inn, Chester  
The Quail Hollow Inn, Chester  
Rowell's Inn, Andover



## The 2006 – 2007 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 2006-2007 Governor's Award Recipients

### **IBM Monitor Core and Chemical Mechanical Polish Teams**

IBM of Essex Junction has developed a plan to recycle and reclaim silicon wafers. Wafers are reused several times and then downgraded for use in other processes before being scrapped; this recycling program reduces the purchase of new energy-consuming wafers. Scrapped wafers are then sold for use in photovoltaic solar panels, instead of being sent to the landfill. IBM also modified the removal process of proprietary information from wafers to eliminate the use of corrosive chemicals. These initiatives resulted in a reduction of the wafer carbon footprint by 30-75%, as well as a reduction of hazardous waste and waste disposal. Savings estimated \$516,000 in 2006, and a projected \$1,360,000 in 2007.

### **Northeastern Vermont Regional Hospital (NVRH)**

NVRH has implemented a number of initiatives to reduce solid and hazardous waste, and pollution. NVRH is the first hospital in Vermont to use the hydrogen-peroxide plasma sterilizer, which results in eliminating ~100 lbs ETO emissions/year, and ~1000 lbs halogenated hydrocarbon emissions/year. Among other initiatives, this hospital has also converted from #4 fuel to #2 fuel, reducing sulfur-dioxide emissions by 6+ tons/year; replaced Styrofoam food containers with a reusable/paper program; and reduced mercury in all areas to approach a mercury-free environment; reduced the potential waste stream by reselling or donating surplus/used equipment. While already participating in recycling (e.g., 45 tons of corrugated cartons and 10 tons of white paper), the hospital is expanding this program to include shredded paper, other types of paper, and aluminum.

### **Questech Corporation**

The consolidation of operations provided Questech Corporation with an opportunity to make several environmentally-friendly advances in their casting operations. By re-designing equipment and developing new chemical processes, Questech reduced N-Propyl Bromide emissions (VOC and HAP) to zero, styrene (HAP) emissions by more than 96%, and its overall HAP emissions to less than 10 tons/year. Once the initial installation costs are off-set, estimated yearly savings due to these changes are estimated to be \$150,000.

### **Chittenden Solid Waste District (CSWD)**

Since launching the program in 2002, the Local Color Paint Program of the CSWD has diverted 251 tons of latex paint from the landfill. Unused/unwanted latex paint collected through the CSWD hazardous waste program is directed through a process in which suitable paint is filtered, combined and labeled for re-sale. Local Color paint has been recognized as a quality product by many contractors and consumers. Additionally, CSWD has developed a relationship with a Canadian company that collects and consolidates much of the paint that is unsuitable for Local Colors, further decreasing the latex paint waste stream. These two programs reduce the cost of collection and management of latex paint (by generating revenue), and have collectively recycled 70% of disposed latex paint in the CSWD.

### **Lake Champlain Chocolates**

For their new packaging and distribution facility, Lake Champlain Chocolates renovated the building at 444 Pine Street in Burlington to meet LEED standards. This was an environmental mission, as well as a cost-cutting endeavor. Energy efficiency was optimized with lighting fixtures, daylight and occupancy sensors, HVAC, and the building envelope. The annual reduction of 24,412 lbs CO<sub>2</sub> due to energy efficient measures not only benefits the environment, but also saves \$35,000 in energy bills (representing a 42% reduction in energy costs); the efficient

lighting systems save 177,382 kWh/year, and the efficient cooling system saves 16,851 kWh/year. Over a period of 15 years, these energy efficiency measures are estimated to provide a savings of 2,913,495 kWh. The environmental impacts are further reduced with water-efficient plumbing fixtures, environmentally preferable materials, and recycling construction materials.

### **Burr and Burton Academy, Help Our Planet (HOP)**

The HOP program at Burr and Burton Academy originated as a tool to engage the student in an environmental lifestyle. This was achieved by encouraging the modification of individual behavior through pledges such as reducing water use when bathing, anti-littering, and turning off lights when not in use. The inaugural year resulted in the establishment of many individual pledges (e.g., 47 pledges to reuse containers for products like oil, honey, shampoo, lotion, 287 pledges to turn out lights when not in use, 120 pledges to turn off water while brushing teeth, and 72 pledges to cut shower time by 50%). The next step will be to extend the program to the school community (e.g., cafeteria composting, school-wide recycling program). The cafeteria switched to 90% biodegradable materials, with a goal of reaching 100% within months. A proposal to start a cafeteria composting program estimates the prevention of 16,920 gallons of trash disposal, and the production of 12,780 pounds of compost. The final steps will be to disseminate the program as a model to Vermont schools, as well as to take it into the public realm (e.g., promoting local purchasing).

### **Green Mountain College**

At Green Mountain College, students were given the opportunity to take a set of courses that explored, in depth, the food and agriculture system of the Northeast. *Food, Agriculture, and Community Development in the Northeast* was a team-taught block course that focused on the sustainable development of food, agriculture, and local communities in Vermont and the Northeast region. Dr. Jacob Park, an Assistant Professor of Business Strategy and Sustainability at Green Mountain College, co-taught the course with Eleanor Tison and Philip Ackerman Leist. Using the campus dining hall as a class laboratory, the students analyzed the economics and efficiencies of the campus food system in the context of a local food and agricultural system. This course offered an interdisciplinary overview of the subject, and provided the students with firsthand experiences through guest lectures, workshops, and fieldtrips.

### **Chester-Andover Elementary School Student Council**

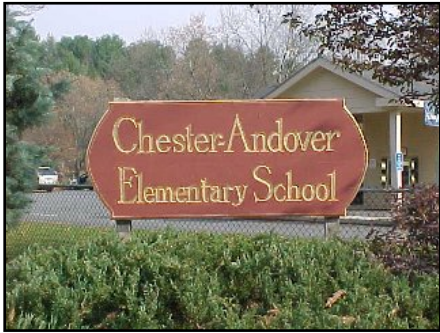
The comprehensive recycling program and the gardening project at the Chester-Andover Elementary School are, in large part, successful because of the dedication and hard work of the Student Council. The Student Council presented the idea of introducing recycling to the school board, and has since taken a large role in implementing and maintaining the program.

Launched in 2007, the school has recycled 2.25 tons of material. Of particular note, the cafeteria switched from disposable to reusable cups, thus reducing a daily trash load of 7-9 bags to 2 bags. The Student Council also started the vegetable garden to supply the cafeteria with fresh vegetables; the garden, although still in the initial stages, has extended beyond the school to involve not only students, but their parents and members of the community.

### **People's Academy (Ashley Brown, Emberly Keith, Brittany Lanphear, and Brandy Hill)**

Four students at the People's Academy have undertaken a project to reduce the environmental impacts of the school cafeteria. This was approached by first addressing the food waste disposal behavior of their peers. With education and guidance to increase student awareness, approximately 70% (w/w) of cafeteria waste is currently diverted from the landfill for composting. Future goals include using the composted material for student gardens, and transitioning the food source from distributor to local and organic sources.

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.



- **Chester-Andover Elementary School Student Council** – Student Council Initiated School wide Comprehensive Recycling Program

Think student council and you're likely to recall that group of students that campaigned for office, looked at the world of issues facing a school, and put their energies toward organizing holiday parties and school dances. Not so the eleven 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grade student council members at the Chester-Andover Elementary School! They made welcome bags for substitute teachers, hosted a Geography day, and...reduced the environmental footprint of the school by creating a comprehensive single-stream recycling program and a vegetable garden. A short DVD created by students was used to inform and educate classmates about what types of materials could be accommodated by the recycling program.

Begun in February of 2007, students have already recycled 2¼ tons of material. By focusing on waste reduction and recycling the school has reduced the amount of trash going to a landfill from 4 to 1½ tons each month. The trash dumpster was picked up on a weekly basis, and now is picked up twice a month! One of the group's biggest successes was in addressing waste in the cafeteria. Where once students and staff generated 7-9 bags of trash daily, they've been able to reduce it to only 2 trash bags. Individual milk cartons have been replaced by a bulk milk dispenser and reusable plastic cups, preventing more than 10,000 milk cartons from being disposed of annually.

The school garden closes the loop on collected kitchen scraps by producing vegetables for the cafeteria grown in compost created by the waste organics. In addition, the school is installing light sensors and energy efficient lighting. Clearly, when students and their adult mentors are empowered to do what they can to make the world – and their own school – a better place there is plenty of passion and creativity to make a VERY real difference!



- **People's Academy (Ashley Brown, Emberly Keith, Brittany Lanphear, and Brandy Hill)** – Greening the Cafeteria

Never underestimate the power of a vision of what could or should be. At People's Academy in Morrisville, Ashley, Emberly, Brittany and Brandy shared and embraced a vision of the future premised on systems that more closely mimicked nature and respected the fact that we live in a resource constrained world.

Having formed a Green Team the girls built their vision of a more sustainable future on a set of sequential goals that would take currently linear operations – take, make, waste systems – and recreate them as more cyclic or closed loop operations. They decided to begin their efforts in the school cafeteria. The four member team approached their goal-setting scientifically and collected baseline data on the percent composition of cafeteria waste. From this data they decided to work with school administrators and cafeteria staff to eliminate all non-meat pre- and post-consumer food waste from the waste stream and have been donating approximately 50 pounds of what was formerly considered waste to a local farmer raising pigs. During warm weather months this same amount of organic waste is composted. The girls monitor moisture, temperature, and Carbon:Nitrogen ratios to maintain optimal conditions for decomposition. In addition, the Green Team eliminated individual, nonrecyclable 1/2 pint milk containers, replacing them with a milk dispenser and reusable cups.

For 2008, the girls are working to help transition the cafeteria to local and organic food sources and to build a greenhouse that can take advantage of the compost created to grow greens that can be used in the school salad bar. With visionaries like these, there is clearly reason for hope for those overwhelmed by the many environmental challenges before us.

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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 two award recipients in this category.



- Donald Knaack/Burr & Burton Academy – Help Our Planet (HOP)

If we are to ever realize a preferred and more sustainable future, we need to ask ourselves *Is there anything I can do to help our planet and protect the environment? What is it that I can do in my everyday life that can really make a difference?* Truth is, if each of us asked and answered this question – and then acted on our answers we'd be well on our way to realizing that preferred future. Imagine then what would happen if students in every school in Vermont pledged to do this. This would surely be a powerful force for change!

Donald Knaack, otherwise known as the Junkman, is a Vermont musician who composes-for and performs-on junk and recycled materials. His passion for music and recycling found an important extension when he decided to create Help Our Planet, or HOP, a school-based program that encourages young Vermonters to adopt more environmentally preferable behaviors.

By making it hip to HOP, Don seeks to empower students to assume personal responsibility for reducing the environmental consequences of their everyday actions and behaviors. HOP was field-tested at Burr & Burton Academy, in Manchester. There, during the 2006-2007 school year 650 ninth through twelfth graders first pledged and then acted out their environmental convictions. Students agreed to reduce their environmental footprints by, for example, turning off lights when not needed, reclaiming containers and packaging for recycling, reducing water use by taking shorter showers, and much more. Taken together, students;

- prevented the generation of 87 tons of greenhouse emissions,
- saved 346,200 gallons of water,
- returned 13,000 pounds of compostable materials to the earth,
- reduced electric costs by 5%, and
- diverted 11,500 pounds of plastic and glass from the landfill for recycling.

By inspiring Vermont students to act – either alone or in concert with others – the students at Burr & Burton offer themselves as proof that simple acts add up; that all the little things we do, taken together, make a BIG difference!



- **Green Mountain College** – Food, Agriculture, and Community Development in the Northeast

At Green Mountain College in Poultney a liberal arts education is rooted in the idea that a thorough understanding of natural and social environments, and our relationships with them, coupled with the skills, knowledge, and courage necessary to act as responsible citizens in a globally interdependent world, are central to the development of a person's intellect and character.

Sometimes small details point to things that mean a lot more. At Green Mountain College, one of those details is that you'll often find chickens free-ranging on the library steps. Or a farm-crew member using the oxen to haul recycling and compost. Or even a professor and the college president chatting with the student Farm Crew in the barn as they pick up their CSA shares for dinner that evening. At Green Mountain College, students collectively manage the farm, keep up with daily chores, and spend time there to relax and get away.

What all these details add up to is a bigger picture that includes the on-campus farm as an integral component of the learning experience and an essential part of navigating the path toward a more sustainable future.

Beginning in 2006, Green Mountain College offered an interdisciplinary, team-taught block course called, Food, Agriculture, and Community Development in the Northeast. Combining classroom lectures with presentations and visits to actual farms, students were given opportunity to explore some of the most pressing environmental, social, business, and policy issues regarding the sustainable agriculture and community development in Vermont and the Northeast region.

Capping their experience and applying what they'd learned, students worked with dining hall staff to introduce meals made almost entirely from ingredients grown and raised locally. Currently, 12-13% of the school's annual food budget (or about \$57,720-62,530) goes toward purchasing local food. Students worked with food staff to modify purchasing guidelines to include increasing local food purchases by 5% of the total food budget for each year over the next three years, to maximize the purchase of appropriately-certified products whenever possible, and to ensure that sustainable food products are featured prominently, seasonally, and regularly.

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. Green Mountain College is preparing students for a future that will of necessity likely become more familiar to many of us – a healthier and more environmentally sustainable future.

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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 a single award recipient.



- **Chittenden Solid Waste District** – Innovative Paint Recycling Program

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, a single stream materials recovery facility, school and business outreach programs, and assistance with special wastes. With a population of more than 153,000 people and approximately 5,800 businesses, the Chittenden Solid Waste District is the largest solid waste district in Vermont.

Look in most home basements, garages, tool sheds and storage buildings and you're likely to come across a can or more of leftover paint. Citizens have no further need for it, trash haulers won't accept it, which leaves local governments with responsibility for answering the question, "What should I do with my leftover paint?"

Improperly disposed of, paint can contaminate groundwater, and harm fish and other aquatic life. From a life-cycle standpoint, the use of leftover paint as a substitute for raw materials in the paint production process is a net environmental benefit but, what to do with the waste? The Chittenden Solid Waste District has collected latex paint at its household hazardous waste facility since it opened in 1990. Latex paint is the largest waste stream by both volume and weight that the District manages and accounted for 34% of the waste collected in 2006. Clearly then, the first step in managing this waste stream is to think of leftover paint not as a waste but as a resource worthy of reclamation.

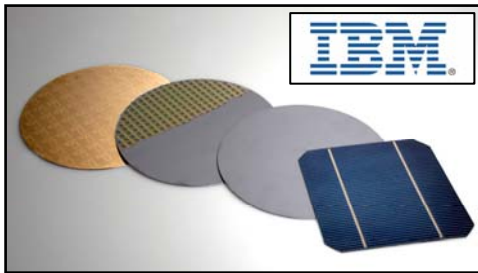
The District started the *Local Color* paint program as an experiment in latex paint reclamation in 2002. Today, the *Local Color* program produces a well recognized paint product that is sold in the community favorably cost competitive with virgin paints. In 2006 alone, 5,824 gallons of latex paint were made into *Local Color* generating revenue of \$35,000.

To make *Local Color*, collected paint is carefully inspected for quality, sorted by color, and poured off through a screen filter into a 55-gallon drum. Selected paint is then re-blended, double filtered, and poured into 5-gallon and 2-gallon pails labeled with attractive artwork donated by Vermont artist Sabra Field. *Local Color* is marketed and sold through the District and several building material reuse stores in the state as well as to consumers in Massachusetts and New Jersey.

In 2004, the District formed a partnership with Laurentide Paint Recycling Company, a Canadian paint manufacturer. Laurentide reprocesses and repackages the recycled product as *Boomerang Paint* which is sold in over 350 retail outlets in Canada. In 2006, nearly 70% of the latex paint collected by the District was recycled into either *Local Color* or *Boomerang Paint*.

Post consumer recycled paint is now available in Vermont and the Chittenden Solid Waste District has clearly positioned itself as a leader in paint product stewardship. Let's hope that others soon follow the District's lead!

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 three award recipients are honored.



- **IBM (Burlington) Monitor Core and Chemical Mechanical Polish (CMP) Teams** – Wafer Pattern Removal, Reclaim, and Recycling Projects in Wafer Manufacturing Operations

With this, our fifteenth 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 Monitor Core and Chemical Mechanical Polish Teams for their innovative work in wafer reclamation and their contribution to the solar energy industry.

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. The company use silicon wafers both as the starting material for manufacturing microelectronic products -- from cell phones to computers to consumer electronics -- and to monitor and control the myriad of steps in the manufacturing process. Worldwide, 250,000 wafers are started per day across the industry. IBM estimates that up to 3.3% of these started wafers are scrapped. In the course of the year, this amounts to approximately three million discarded wafers. Those three million discarded silicon wafers would:

- Stretch for 375 miles if placed end-to-end,
- Cover 22.5 acres,
- Weigh 187.5 tons,
- Generate 13.5 megawatts of solar energy,
- Produce 57 million kilowatt hours in solar panels, and
- Power 6,000 houses.

Because the wafers contain intellectual property, most can not be sent to outside vendors to reclaim so are crushed and sent to landfills, or melted down and resold.

An innovative approach to semiconductor wafer reclamation pioneered at IBM Burlington involves a specialized pattern removal technique to repurpose scrap semiconductor wafers to a form used to manufacture silicon-based solar panels. Silicon wafers ready for reclamation often contain integrated circuit etched on them. These proprietary designs are removed mechanically with an abrasive pad and deionized water, avoiding use of corrosive chemicals. By using the abrasive process, chemical savings alone are approximately \$3 per wafer.

The wafers at the end of their life and after reprocessing are sold to the manufacturers of solar panels as raw material for the production of photovoltaic cells. As with recycling at IBM, this allows the solar industry to produce photovoltaic cells without resorting to the de novo production of pure silicon.

In 2006 annual savings accruing as result of this initiative were approximately \$516,000. The projected ongoing annual savings for 2007 is \$1,360,000 and the one time savings for reclaiming scrapped product is estimated to be \$1,600,000. The increase in the number of silicon wafers generated by this project is sufficient to generate approximately 90KW of solar cells per year.

IBM's efforts provide raw materials for utilization of the one truly inexhaustible energy resource we have, the sun -- and inspire with innovation that matters for the world.



- **Northeastern Vermont Regional Hospital** – Broad Ranging Environment Friendly Initiatives Undertaken by a Rural Hospital

Where for some the connection between environmental health and human health isn't entirely clear it is particularly so at a small rural hospital in St. Johnsbury, driving them to undertake environmental initiatives that create more healthful conditions for all. Northeastern Vermont Regional Hospital is a not for profit, acute care community hospital serving residents of Vermont's Northeast Kingdom. The hospital provides primary and preventive care, surgical and specialty services, inpatient and outpatient care and 24-hour, physician staffed emergency services.

The environmental costs of sterilization are seldom considered in the context of a working hospital. At Northeastern Vermont Regional both human and environmental health entered the equation when a decision was made to convert from an ethylene oxide to a hydrogen-peroxide-plasma sterilization unit. Not only was the ethylene oxide CARCINOGENIC, TERATOGENIC, MUTAGENIC, NEUROTOXIC and a RESPIRATORY POISON, it was also a greenhouse gas. Since the conversion the hospital has avoided 1,000 pounds of ethylene oxide AND 5 tons of the halogenated hydrocarbon, another greenhouse gas, that was needed in conjunction with the ethylene oxide.

The hospital has long been a substantially mercury-free environment. Thermometers, sphygmomanometers, and other medical devices employing mercury switches have all been replaced with non-mercury alternatives and fluorescent bulbs are properly managed as a Universal Waste ensuring that the mercury gets reclaimed. Surplus medical equipment is normally traded-in on new equipment or sold through a broker. However, many times surplus is donated for use by developing nation recipients through a not-for-profit intermediary. This both keeps the equipment out of the waste stream and puts it into productive use in regions of the world where such equipment is not commonly available.

Approximately 38,000 pounds of bio-hazardous waste is made safe using a single, dedicated steam autoclave. This waste is segregated at the source in order to allow for efficient collection of waste destined for the landfill and that which can be reclaimed as recyclable.

Conversion from #4 fuel oil to #2 fuel oil dramatically reduced sulfur emissions - eliminating an estimated 6 tons per year of sulfur-dioxide emissions as well as two 55 gallon drums of heavy metal laden stack and boiler soot!

A healthy health care system clearly must be premised on motivated and engaged health care professionals for whom safeguarding the environment is integral and consistent with protecting the health of patients, staff, and the community. At Northeastern Vermont Regional Hospital the commitment to care extends broadly as they continually strive for more healthful and sustainable operations.



- **Questech Corporation** – Volatile Organic Compound/Hazardous Air Pollutant (VOC/HAP) Reduction Project

Questech, located in Rutland, is the world's leading manufacturer of cast metal and stone decorative tile, recognized for superior design, innovation and craftsmanship. The company's legacy of innovation comes from the invention of a breakthrough technology -- a process for casting beautiful metal objects at a fraction of the weight and cost of solid metals. This proprietary casting technology led to the launch of the industry's first mass-produced metal tiles, creating an important new category in the tile and home improvement markets.

When Questech consolidated its operations recently it provided opportunity to re-design equipment and to develop new processes and formulations based on water-borne chemistries, and thus significantly reduce their generation of Volatile Organic Compounds and Hazardous Air Pollutants. In particular, the company hoped to completely eliminate use of n-Propyl Bromide and to achieve a 90% reduction of Styrene emissions.

The challenge with going to water-based formulations for, in this case a mold release, is that water doesn't evaporate nearly as quickly as a solvent. In their search for a solution Questech finally settled on an approach that employed a unique combination of chemistry, process, and engineering changes that allowed them to achieve their goal of eliminating n-Propyl Bromide from the production process. The company went from 45, 502 pounds of n-Propyl Bromide emissions in 2005, to zero emissions in 2006. Supporting the adage that pollution prevention pays, by going to a water-based formulation the company projects annual savings of approximately \$150,00.

The effort to reduce Styrene emissions proved even more difficult due to the fact that the primary ingredient in all Questech products is polyester resin and a suitable water-based substitute has not yet been developed for this material. Without a viable alternative Questech next looked at a number of abatement technologies. Thermal oxidation is the method of choice for most companies dealing with Styrene emissions, however this technology creates a secondary emission in the process. Questech was not looking to eliminate one emission only to replace it with another. After extensive research they settled on carbon adsorption; an expensive but highly effective control strategy. Using carbon adsorption, Questech's Styrene emissions were reduced approximately 96%, going from 12,989 pounds in 2005 to 297 pounds in 2006.

Questech remains committed to being a responsible corporate citizen by developing and utilizing materials and processes that minimize environmental and human health hazards.

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**T**he 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 a single award recipient.



- **Smugglers' Notch Resort** – Carbon Footprint Reduction

Vermont remains emblematic of an America that once was. As Vermont singer/songwriter Jon Gailmor once wrote, "...she's a long ago lady of pride and compassion. With elegant wrinkles I long to hold on to. She's a maid of an era the country's forgotten. Save Vermont." Saving that Vermont of long ago means taking care of it in the here and now. With an awareness and commitment exemplary in the ski industry, Smugglers' Notch Resort exemplifies what it means to be a good neighbor and corporate environmental citizen. At Smugglers' the development and maintenance programs are guided by principles of land, resource and energy conservation; by forest and wildlife habitat preservation; and by a commitment to maintaining Vermont's water quality and aesthetic beauty.

Climate change clearly holds consequence for Vermont and Vermonters; but most especially for plants, animals, and industries reliant on what makes Vermont winters so very special – brisk temperatures and mountains of the fluffy white stuff. Targeting the reduction of actual greenhouse gas emissions, rather than simply purchasing offsets, Smugglers' has been building to a 5-star energy rating since 1996 – preventing the generation of an estimated 131 tons of CO<sub>2</sub>. Their most recent construction project includes a solar domestic hot water system that will eliminate approximately 6 tons of CO<sub>2</sub> annually. Setback thermostats designed to dial down heating and cooling when rooms are not occupied planned for

installation in existing Club homes will save an additional 260 tons of CO<sub>2</sub> annually.

For the 2006-2007 winter season, Smugglers' installed an electric compressor which took the place of three leased diesel compressors. Last year alone snowmaking operations netted a reduction of 390 tons of CO<sub>2</sub>. Ski Cool, a climate neutral skiing program, gives pass holders and day skiers the chance to purchase carbon offsets accounting for the greenhouse gas emissions associated with a day of skiing; including operating the lifts, heating the base lodge, even driving to and from the mountain. Since the program started Smugglers' skiers have offset more than 120 tons of CO<sub>2</sub>.

During the warmer months, Smugglers' village operating departments avoid generating 41 tons of CO<sub>2</sub> by relying on smaller fuel-efficient carts and biodiesel-fueled tractors and lawn equipment. Making environmental protection an integral aspect of work done the resort and by inviting guests to join them in the effort, Smugglers' Notch reminds us that individuals and businesses both can adopt ecological solutions that can help minimize anthropogenic sources of greenhouse gases and guide us toward a more sustainable future.

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The final award category is for **Environmental Excellence in Land Use & Land Use Planning**. Award recipients in this category implemented projects that preserve or conserve land to create ecological and environmental benefits or that advance smart growth alternatives. This year we honor a single award recipient.



- **Lake Champlain Chocolates** – LEED Certification at 444 Pine Street

Success can be especially sweet when business can engineer a win-win for both the bottom line and for the environment – and it's sweeter still when the product being manufactured is premium all-natural gourmet chocolates! Lake Champlain Chocolates, in Burlington, puts a premium also on creating a healthy workplace for employees, environmental performance, waste prevention, and energy efficiency.

Late in 2006 the chocolate company opened 444 Pine Street, the first warehouse and distribution facility in Burlington to be LEED certified. LEED Green Building Rating System is the nationally accepted benchmark for design, construction, and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health including: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

The 47,000 square foot building, formerly a dilapidated manufacturing facility, today incorporates energy-efficient mechanical and lighting systems including daylight and occupancy sensors, it harvests natural light using energy-efficient skylights and windows, reduces heating and cooling demand using high insulation values for the walls and the roof, and conserves water with water-efficient plumbing fixtures. A variety of locally sourced recycled building materials are used as is FSC-certified wood. Designated recycling and bike rack areas promote appropriate collection of recyclables and non-polluting employee commuting.

Proving once again that up-front investments can offer both short- and long-term dividends, the building is 27% more energy efficient than one built to code, will cost 42% less to operate and avoid the generation of nearly 25,000 pounds of CO<sub>2</sub> emissions annually. Annual electricity savings from this building alone are enough to provide 27 average Burlington homes with their annual electrical needs -- over the next 15 years.

In the film *Forrest Gump* the main character with the same name claimed that, "Life is like a box of chocolates - you never know what you're going to get". Lake Champlain Chocolates offers the same mystery with each box of its truffles, but takes the mystery out of how to do well by doing good. The building at 444 Pine Street offers economic and environmental benefits daily that make ever more tangible the notion of Vermont's Green Valley.

*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 recognized 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 2006 - 2007:



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

Smugglers' Notch Resort, already honored with a Governor's Award today, also is 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 2006 and 2007:

- **Sleepy Hollow Inn Ski & Bike Center**, Eli Enman, 1805 Sherman Hollow Road, Huntington, VT 05462



- **So Just Relax**, Nancy Herman, 5296 Dorset Street, Shelburne, VT 05482



- **The Braeside Motel**, Patricia Ploss, 432 Woodstock Road, P.O. Box 411, Woodstock, VT 05092



- **The Arlington Inn**, Elizabeth Berger, 3904 Route 7A, Arlington, VT 05250



- **Marshfield Inn and Motel**, Tracey Hambleton & Diana Batzel, 5630 U.S. Route 2, Marshfield, VT 05658



- **The Inn at Shelburne Farms**, Anne Bijur, 1611 Harbor Road, Shelburne, VT 05482



- **The Inn at Weathersfield**, Jane & David Sandelman, 1342 Route 106, Perkinsville, VT 05151



- **The Old Mill Bed & Breakfast**, Robert Foley, 79 Stone Mill Dam Road, Brandon, VT 05733



- **Willard Street Inn**, Katie & Larry Davis, 349 South Willard Street, Burlington, VT 05401



- Members of the **Chester Vermont Innkeepers Association:**

## Chester Vermont Innkeepers Association

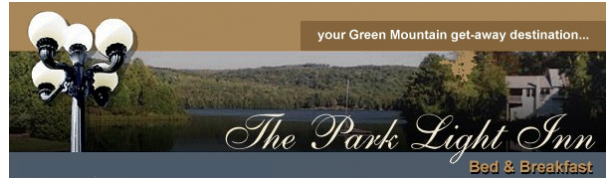
The Chester Vermont Innkeepers Association is the 1<sup>st</sup> Innkeepers Association in Vermont to succeed in having all its members designated as **Green Hotels in the Green Mountain State**. The group has their environmental mission statement posted at [www.greenlodgingvt.com](http://www.greenlodgingvt.com), and is committed to reducing the environmental impacts of their business operations by: conserving energy and water; providing guest access to recycling; purchasing environmentally friendly products that close the recycling loop or reduce chemical use; reducing waste (some by composting); and communicating with guests their environmental commitment.

<http://www.chesterlodging.com/>

- **The Chester House Inn**, William Lundy, 266 Main St., Chester, VT 05143



- **The Park Light Inn**, Jo-Ann Jorgensen, 232 Depot Street, Chester, VT 05143



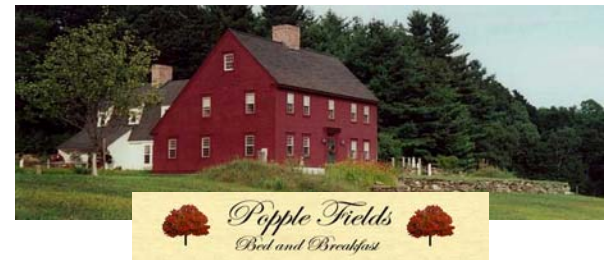
- **The Hugging Bear Bed & Breakfast**, Georgette Thomas, 244 Main Street, Chester, VT 05143



- **Stone Cottage Collectables Bed & Breakfast**, Christopher Curran, 196 North Street, Chester, VT 05143



- **Popple Fields Bed & Breakfast**, Maria Delia, 1300 Popple Dungeon Road, P.O. Box 636, Chester, VT 05143



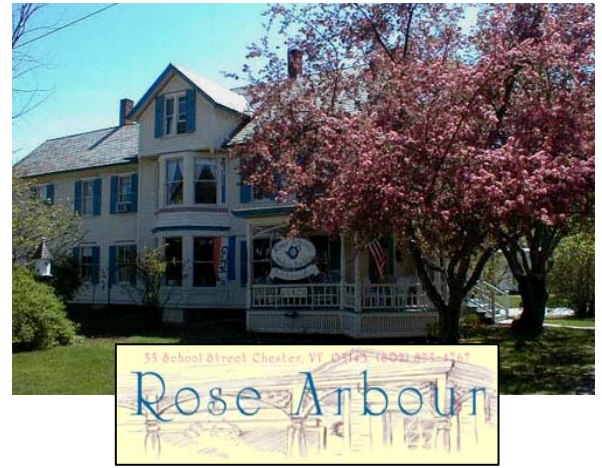
- **Fullerton Inn**, Bret Rugg, Box 968, Chester, VT 05143



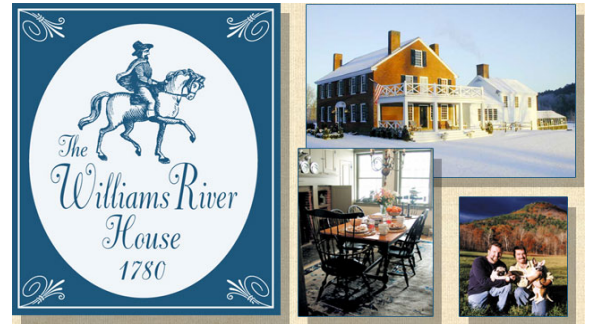
- **Motel in the Meadow**, Patricia Budnick, 936 Route 11, West, Chester, VT 05143



- **Rose Arbour Inn**, Suzanne Nielsen, 55 School Street., Chester, VT 05143



- **The Williams River House**, Mark Martins, 397 Peck Road, Chester, VT 05143



- **Henry Farm Inn**, Paul Dexter, 2206 Green Mtn. Turnpike, Chester, VT 05143



- **The Old Town Farm Inn**, Aleks & Michiko Hunter, 665 Vt. Route 10, Chester, VT 05143



- **The Quail Hollow Inn**, Peter Stearns, 225 Pleasant Street, Chester, VT 05143



- **Rowell's Inn**, Michael Brengolini, 1834 Sinonsville Road, Andover, VT 05143



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!



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