

THE ART OF SUSTAINABILITY



Sustainability Coordinator Training Manual

Greek Houses and Dorms

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Cover Image: El Anatsui, *Hovor* (detail), 2003, aluminum and copper wire, 609.6 x 548.6 cm, Hood Museum of Art, Purchased through gifts from the Lathrop Fellows. Photography by Noel Brown.

1. Introduction

Welcome to Dartmouth College's Sustainability Coordinator Training Retreat: The Art of Sustainability. You are making history. The intention of this retreat is to begin the first round of identifying and training Sustainability Coordinators. The goal is to eventually identify and train a coordinator for every office, dorm and Greek house. Once you are trained, you will be empowered and supported in leading your community in establishing action steps specific to your situation. If we were to give you a list of 100 things to do to 'Save the Earth,' you might yawn and simply file the list some where round. However, by inviting your friends into a creative brainstorming and visioning session that leads to identifying hot action items and first-steps, those who participate are more likely to get excited and follow-through (having been intimately involved in the process). If a sustainable culture is to become daily practice at Dartmouth College, it will take wide-spread participation, intelligence, caring and motivation. This retreat begins the process.

Briefly, for a person, house, institution or nation to be sustainable, they must use the Earth's green life (know as biomass or net primary productivity) at a rate slower than natural production while sharing this biomass with other species, people and future generations. Further, we must phase out the use of all non-renewable resources and not emit anything toxic into the biosphere. I know this is a mouthful, but it helps to understand exactly what we mean by sustainability.

The issues facing humanity and planetary ecosystems are profound and arguably the defining challenges of our time. The disparity between the richest and poorest billion people is now 250:1. Species extinction is 1000 times faster than natural rates. Wars over resources are flaring as is desertification, deforestation and the collapse of fisheries. The clearest identified trend is exponential growth of human population and consumerism on a finite planet. If we call 1-800-NASA and ask how many livable planets exist, they will say 'one.' If we then ask, is this planet growing in size, they will say, 'hold on, let me check.' When they return to the phone, they will say, 'No, it is not growing.'

Dr. James Hansen, the director of the NASA Goddard Institute for Space Studies and Adjunct Professor of Earth and Environmental Sciences at Columbia University's Earth Institute stated "I think we have a very brief window of opportunity to deal with climate change ... no longer than a decade, at the most." With nineteen of the hottest 20 years on record having occurred since 1980, his models indicate that with status-quo burning of fossil fuels global temperatures will rise 3.6 to 7.2 degrees F. Current warming has resulted in species of plants, animals and insects migrating toward the North and South Poles at about four miles per decade in the second half of the twentieth century. Meanwhile, isotherms, or temperature zones have been moving pole-ward at a rate of about thirty-five miles per decade. In Greenland, annual icequakes doubled in the late 1990s and doubled again by 2005. The present atmospheric concentration of carbon dioxide (CO₂) has not been exceeded during the past 420,000 years. When considering the future of earth and human systems, option 'status quo' seems to contain the most risk.

These planetary trends have local corollaries. For example, CO₂ emissions at Dartmouth College from heating fuel and purchased electricity have increased by 66 percent from 109.3 (10⁶ lbs) per year in 1990 to 164.8 (10⁶ lbs) in 2005. Meanwhile, the Kyoto protocol set reduction targets at seven percent below 1990 levels by 2012, or 101.6 (10⁶ lbs) for Dartmouth. Despite efforts to conserve

energy at Dartmouth, this increase slightly outpaced total USA GDP growth between 1990 and 2005 (61 percent). Other trends at Dartmouth include increased use of energy and generation of garbage.

The Dartmouth Sustainability Initiative understands that facing these issues squarely can be overwhelming. However, we also know that applying ourselves to identifying solutions will be ultimately rewarding and will take the best capacities that Dartmouth students develop. Further, by changing ourselves first, and having fun with it, others will take us seriously. Actions do speak louder than words, and it is our personal and collective daily habits that drive the global issues.

Dartmouth is in the business of educating individuals who will take leadership in making the world more sustainable regardless of their chosen field of study. After this retreat we invite you to contemplate your unique gift to a sustainable planet.

2. Retreat Agenda

- 3:00: Arrival of Participants at the Hood Museum of Art
3:00 – 3:45: Exhibit – Tour *El Anatsui: GAWU* Exhibition
- 3:45: Sustainability Coordinator Training – Wilson Hall Room 216
3:45 – 4:00: Tel-a-vision – Envisioning a Sustainable Future
4:00 – 4:15: Leading a Retreat
4:15 – 4:30: Four Levels of Action
4:30 – 4:45: Sustainability at Dartmouth
4:45 – 4:55: Questions
4:55 – 5:00 Closing

3. *El Anatsui: GAWU* exhibition on view at the Hood Museum of Art January 6–March 4, 2007

This exhibition features works by El Anatsui, an artist who was born in Ghana but has lived in Nigeria for the past twenty-eight years, making his art and teaching at the University of Nigeria, Nsukka. Through his teaching and his art he has influenced a generation of artists there, as well as further afield as he exhibits internationally.

El Anatsui has said that “Art grows out of each particular situation and I believe that artists are better off working with whatever their environment throws up.” Over the years he has worked with paint, wood, clay, and metal to make his art, but most recently he has used trash—large quantities of discarded metal objects—to create his art.

The seven large sculptures in the exhibition are all made out of trash or reused materials that the artist has transformed into art. As well as being visually compelling, Anatsui’s sculptures comment upon broader concerns, particularly the adverse effects of globalization, consumerism, and waste in

Africa today, and sustainability issues. Many of his works also refer to and celebrate Africa's rich artistic and cultural heritage through visual and other references.

Free Tours of the *El Anatsui: GAWU* exhibition are available by appointment for any group of five or more. Contact Adrienne Kermond, the Tour Coordinator at the Hood, with questions or to schedule a tour.

The Hood Museum of Art is also offering a series of free lectures and gallery talks in conjunction with the exhibition. For a complete listing of these events, visit the Hood's Web site at <http://hoodmuseum.dartmouth.edu> and click on the CALENDAR.

4. Sustainability at Dartmouth College

The Dartmouth Sustainability Initiative (DSI) is sponsored by the office of the Provost and is operated by Jim Merkel and several Sustainability Interns. DSI's task is to advance Dartmouth's efforts to become a sustainability leader in higher education by working with administration, staff, faculty and students to provide the knowledge, skills and motivation that will integrate sustainability values and practices into the College.

Achievements in Sustainability at Dartmouth College:

- Energy Reduction and Diversification
 - Each year the Facilities Operations and Maintenance Department (FOM) in cooperation with the student group ECO and DSI focus attention on campus-wide conservation awareness. Some of the recent steps include lowering building temperatures, doing the annual student dorm energy challenges and diligently turning back temperatures when buildings are not occupied.
 - DSI designed and printed 5,000 new light-switch stickers branding the new logo and advertising the website.
 - DSI developed an Energy Feedback poster that reports electricity, heat and water in 50 buildings as compared to last year and to the average building use on campus.
 - DSI is currently evaluating the feasibility of solar panels on several existing and new buildings.
- Sustainable Dining
 - In the fall of 2006, Home Plate opened its doors as the campus's most sustainable dining establishment. The changes include a waste-free condiment bar, expanded fountain including a milk machine, bulk snacks, 100% recycled bleach-free napkins and elimination of many packaged items. Diners are encouraged to use washable china and silverware and must request a takeout container for "to go" orders. Recycling and composting have been expanded both behind the scenes and in the dining hall and trash weights have dropped significantly.
 - Food Court has begun to make similar changes.
 - The Sustainable Dining Club (SDC) signed up 140 members in the Fall of 2006 which allowed them to eat in Collis Café and Homeplate without creating any waste. Each member

was issued a sustainable dining kit which included use of washable take-out containers with lids, a Nalgene bottle, an eco-mug with a carabineer, a cloth napkin and silverware.

- Indicators
 - The Dartmouth Sustainability Initiative interns produce an annual Sustainability Report which includes electricity, steam, and water use by building. It also includes amounts of trash, emissions, consumption of fossil fuels including #6 fuel oil, #2 diesel, kerosene, gasoline and propane and Dartmouth's ecological footprint (impact on environment.)
- New Buildings
 - The Office of Planning Design and Construction (PDC) at Dartmouth has developed an integrated design approach to its new buildings which include performance-based design standards and commissioning.

Sustainable Dartmouth is a student moderated forum where environmental groups on campus communicate and collaborate with each other on sustainability initiatives. Groups represented include: The Progressives, Field and Farm (the Dartmouth Organic Farm), the Big Green Bus, ECO, the Dartmouth Local Food Project, The Dartmouth Sustainability Initiative and the Green Magazine.

5. Getting Started

As the new Sustainability Coordinator for your community, we would like to first say that you don't have to be an expert on sustainability! What we are encouraging you to do is engage the collective skills, knowledge and experiences of your friends and acquaintances in your residence. This manual does include a section titled "Sustainability Facts and Tips" and abundant resources for you to learn more, which we do encourage you to do.

During this retreat, we will model parts of the process of leading a retreat in your residence. This is the fundamental tool we are offering – a democratic and inspirational session that begins with vision and leads to action. This brainstorming process we will explain below has been well tested over the years. It works with large and small groups, with people of all political persuasions and results in definitive and unique actions and draft plans.

Over the course of your time as Sustainability Coordinator, you will learn practical skills of saving energy and reducing waste as well as group leadership techniques. This experience will look nice on a resume, but it might also add vitality and focus to your studies here at Dartmouth. Regardless of your chosen field of study, we encourage you to grapple with how to shift practices in this area toward sustainable ones.

6. Leading a Retreat

To take a group from vision to action requires creating a mood of open mindedness and safety. To accomplish this, you should start by explaining very simple ground-rules up front and stick to them. As the facilitator, you will ensure all voices are heard and that the process is not dominated by strong personalities. We will include specific suggestions that can make the process fun yet productive.

Let's begin by assuming you have been through this training retreat and have returned to your residence. If you have residential meetings, ask to have five to ten minutes on the agenda to report on the retreat. You might explain briefly why you are personally interested, summarize the issues both globally and locally and with some enthusiasm, share the creative potential and the thrill of challenge in actually making radical changes to ensure we have a livable, desirable, planet for us and future generations. Then you can hand out the cards in the appendix marked "Sustainability Action Options." (Photocopy the number of sheets you need and cut them to size.) While you explain the four options, ask people to check the box that most interests them. Collect the cards when you are done speaking. Section 6.1 is an example of the cards, which can be found in section 9.4 of this packet.

6.1 Sustainability Action Options:

- Strong Interest:** I'd like to attend a Sustainability Retreat for my dorm or house this term to develop a Sustainability Action Plan. (3 hours long)
- Medium Interest:** I'd like to attend a Sustainability Brainstorming Session for my dorm or house this term to identify possible projects. (2 hours long)
- Mild Interest:** I'd like to help my residence conduct an ECO-AUDIT. Please send me the Sustainability Survey so I can let you know the sustainability steps I'd like to take.
- Pressed for Time:** I support this effort but have little time. However, I would like to help in some way. If there is one thing I'd like to see changed around here this term it is: _____ Blitz me when you need help.

Blitz: _____

6.2 Power Point Presentation

The Dartmouth Sustainability Initiative will provide each Sustainability Coordinator with a Power point Presentation that they can customize to their liking.

6.3 Tel-a-vision – Envisioning a Sustainable Planet (5 min.)

We will assume you have strong interest in your house and will be leading a full retreat (three hours if in conjunction with an exhibit at the Hood Museum of Art, two hours stand alone). If you work with the Hood, the first hour is spent touring the exhibit with an education intern working with the Hood staff. Through this process, the intention is to widen the view of sustainability to social and ecological issues. Further, by experiencing the Arts as a medium for social change, by extension, other studies such as business, engineering, philosophy, earth sciences or politics all can contribute to a sustainable future.

Feel free to be creative and develop your own one-hour experiential introduction which can include an adventure in the forests, an art project, a game – some activity that engages the mind and intuition in sustainability.

When the group returns from the exhibit or experience and people have settled, you will explain how Tel-a-vision works. It is a rapid-fire idea session where people are encouraged to think outside the box of North American culture. The guidelines for brainstorming of visions are simple:

- 1. Raise hands and when your turn comes, say your idea in as few words as possible.**
- 2. All ideas will be summarized and written down without comments or discussion.**
- 3. Anything is possible!**

Ask for two assistants with good handwriting to record the ideas quickly. Prepare the flipcharts in advance by sticking medium sized post-its all over the paper on two sheets. (The goal is to get as many ideas down in 5 minutes or less without any cross talk to inhibit people’s creativity, one idea per post-it.) You will ask the group to imagine the world has become completely sustainable. This world of your wildest dreams, what would it look like? What would you see people doing? What would you see on the T.V. or hear on the news? When 5 minutes are up, or when people are slowing down, wrap it up by saying “let’s take down one or two more visions.” You can say, “we will post these lists up and at any time, you can add any new visions or ideas.”

6.4 Envisioning a Sustainable Dorm or House (5 min.)

Transition quickly to: Now, let’s imagine that our residence has become completely sustainable. In a world where anything is possible, what would you be seeing? What would you be hearing? How about the smells? Now turn to someone sitting next to you and for one minute, tell them your wildest visions. I’ll let you know when one minute is up. Then switch, so the one who was listening gets to talk. At the end of this minute, interrupt firmly but gently by saying; Ok... let’s come back together. If there was a lot of loud discussion and ideas, you can say something like, “I could have left you all to solve the world’s problems.”

Request two new note-takers at the easels, again have blank post-its stuck all over the easels. Now ask, “Can you say in a word or two what you heard from your partner?” Take down smells, sights, tastes and sounds for about 5 minutes or until it slows down. Thank people for their creativity or cooperation or the spirit they brought to thinking outside the box.

6.5 Develop Five Categories (5 min.)

Now you will ask for four volunteers while people take a five minute break. This team will start with the first list and ask;

1. Does the second item belong with the first item? Yes, stick them together but overlapping so you can read them as you group them. No, create a second category. Does the third item belong with any previous categories, forth item and so on until you have worked through all the brainstorm sheets for both your residence and the planet. Move quickly and realize that there may be overlap, but that is ok. Just do it the best you can. Once you are done, see if you can combine things down into 5 categories. If there are a few ideas that fall out of these categories, *either* encourage the group to stick to five categories or form extra groups. Make up a sign on one-sided scrap paper for each of the five categories and place one on each of five tables. Take all the visions and ideas for each category and place them on the corresponding tables. Place an equal number of chairs around the tables the total equaling the group size.

6.6 Break-out Groups (5 min.)

When people return from break, ask them to walk about the room looking over the five categories and visions, then select a table that most interests them. Once the chairs are taken, go to your second choice and so on. Each break-out group will quickly select a facilitator, a note taker, a reporter and a time keeper. Facilitators will ensure everyone gets to talk and will help move from a brief discussion, to deciding on three action items, to developing a plan. The note taker will keep notes on the discussion and help the facilitator with moving forward. The time keeper will also gently help move things forward giving periodic updates of how much time is left.

6.7 Decide on Three Action Items (10 min.)

Once in the groups you can begin by saying something like; your task, should you choose to accept, is go around the table and each person gets to offer one idea of a project in their dorm or house that combines as many of the visions of both a sustainable planet and residence as possible. The guidelines are:

1. You can skip your turn if you are not ready yet.
2. Each person says his/her idea for a project in as few words as possible. Place each idea for an action item on a Post-it.
3. The ideas can be visionary, but should be possible to accomplish in one to three terms. Also, they should be something the author is authentically excited about.
4. If you really like someone else's idea, you don't have to think up new ones.

After going around the table two or three times or after people have run low on ideas, see if any of the ideas can be combined into one. When two minutes are left, the facilitator asks the group to narrow the ideas down to one or two doable projects either by voting or tallying how many would be willing to offer some energy to each project. During a one minute stretch break, each person initials the one idea they want to work on first.

6.8 Develop a Plan (10 min.)

After a one-minute stretch break, the group returns to draft a mini-plan for the most popular idea. The facilitator will ask the group one question at a time. The note taker will take detailed notes.

1. What is our major goal?
2. What are the steps to making it happen?
3. Who do we need to talk to get more information, support, resources, approval etc?
4. How would we know if we are successful?
5. How can we make this project fun and exciting?

This plan is really only a start. The team should set a time in the next week to meet to further develop the plan. The facilitator can request people to sign-up to take on small task that move toward the goal.

6.9 Group reports (3 min. each, 15 min. total)

The note taker will provide brief highlights of the three projects ideas and outline the plan for the most popular project.

6.10 Wrap-up and Questions

Thank people for sticking with the process and taking the time to participate in this retreat. Ask if people have any questions about leading the retreat. Fill out evaluations.

6.11 Closing – Culture Shift

This is where you will want to have a positive story or quote that is meaningful to you and inspires people to work together toward a sustainable planet. Thank people for coming.

7. How to Schedule a Retreat

If your house would like to schedule a Sustainability Retreat contact Jim Merkel (Dartmouth's Sustainability Coordinator) at james.s.merkel@dartmouth.edu. If your community would like to have a shorter retreat, decide on a location and develop an outline of the components of the longer retreat that you found most effective. Then blitz the Dartmouth Sustainability Initiative for any support you may need. Depending upon availability, the Dartmouth Sustainability Initiative would like to support you in this training.

7.1 Logistics Checklist

This is a checklist designed to guide you through the process of planning a retreat.

1. Decide on a date and reserve a location.
2. If you'd like help running the Sustainability portion of the retreat, blitz Jim Merkel.
2. Blitz out to your community and encourage community members to come. Bring the retreat up at meetings. Secure commitments to the retreat in an uplifting, challenging and positive way.
3. Decide on the proper content for your retreat.
 - a) You may want to use a survey (found in section 9.3 of this packet) to find out what the participants are most interested in.
4. Arrange to have the proper materials.
 - a). Tables and chairs
 - b) A large space to write ideas on, such as a dry-erase board
 - c) Individual writing utensils.
5. If you're catering food, make the proper arrangements to have it there on-time and ready to go.
 - a) Are tables and serve-ware provided by the catering service?
 - b) What is the packaging like? Attempt to cater the food waste-free using washable cups, glasses, plates, silverware, and cloth napkins have appropriate recycling, composting, and waste bins in place.
6. If you're cooking your own food, have it prepared in advance and stored safely.
7. Print out in advance the appropriate materials for your participants.
 - a) Evaluation form
 - b) Sustainability tips or brochure
 - c) Sign-up sheet for particular activities
8. Make your retreat sustainable!
 - a) Re-use paper
 - b) Eat off of re-usable china

8. Sustainability Facts and Tips

8.1 Recycling!

(Regular and Hazardous Waste)

Facts:

- The ecological footprint for Dartmouth's trash is 5.3 acres (Earth area needed to manufacture, transport and dispose including forest area to sequester CO₂ emitted in all processes) while only 4.6 acres is available for each person's entire lifestyle.
- Using recycled materials reduces the need to chop down, extract, process, refine and transport natural resources such as timber, crude petroleum and mineral ores.
- According to the U.S. EPA, over 20 million personal computers became obsolete in 1998 and only 13% were reused or recycled.
- Electronic circuit boards, batteries, and color cathode ray tubes (CRTs) can contain hazardous materials such as lead, mercury and hexavalent chromium. If improperly handled or disposed, these toxins can be released into the environment through landfill leachate or incinerator ash.
- Toxic pollution from landfills -- including cyanide, dioxins, mercury, methane, hydrochloric acid, sulfuric acid and lead -- escape into the air and leaches into groundwater.

What you can recycle at Dartmouth:

- Dartmouth picks up recycling at Greek houses on Mondays (for most, but not all houses) and building custodians manage recycling collection. There are bins and pick-ups at every dorm.
 - Paper: mix all paper together including white paper, colored paper, window envelopes, post-its, manila folders and envelopes, newspaper, glossy magazines, Xerox drawings, boxboard, telephone books, copy paper wrappers. No plastic wrappers.
 - Glass: all colors.
 - Aluminum cans: no liquid residue.
 - Plastic: PETE #1-7, no food/liquid residue.
 - Tin cans: no food residue.
 - Aluminum, plastic and tin can all be mixed together because they all go to Coca-Cola. But it is very important that there is no food/liquid residue on them.
 - Cardboard: breakdown all boxes. No waxed cardboard or Styrofoam.

- Styrofoam packing peanuts: place in a clear plastic bag and tie at the top.
- Clothing: place in a clear plastic bag and tie at the top.
- Have clearly labeled bins in your residence so that people know what to separate and what to keep together.
 - If you need recycling bins in your area please contact your custodian or blitz “Dartmouth Recycles.”
 - If you have a large volume of bulk recycling please blitz “Dartmouth Recycles” to arrange for extra bins and pickup.
- Make sure to dispose of hazardous wastes properly.
 - Put laser toner cartridges and florescent light tubes in their original boxes, mark them “recycle” and put them out with regular recycling.
 - Blitz “Dartmouth Recycles” to get free mailers or pick-up for the following items: inkjet cartridges, batteries, transparencies, CDs and diskettes, cell phones, pagers, PDAs, bicycles.
 - Blitz “Procurement Services” for pickup of used computers, electronic equipment and appliances.

Resources:

- *FO&M Recycling Website*
<http://www.dartmouth.edu/~fom/services/solidwaste/dartmouthrecycles.html>
- *Aluminum Recycling in New Hampshire*
<http://newhampshire.earth911.org/master.asp?s=lib&a=aluminum/facts.asp>
- <http://vtrecyclers.org/>
- *Greater Upper Valley Solid Waste District (GUVSWD)* www.guvswd.org/business
Contact: John Fay at 296-3688 or guvswd@valley.net
- *New American Dream* www.newdream.org/cleanschools/safelist.php
This link is for certified safe cleaning products
- *Vermont Environmental Assistance Program (VEAP)* www.veap.org/prevention.shtml
1-800-464-7232
- *Managing Hazardous Waste in Your Home: A guide to Safe Disposal and Less-Toxic Alternatives.* Produced by the Vt. Department of Environmental Conservation. To obtain a booklet contact Tom Benoit at 802-241-3472 or thomas.benoit@state.vt.us

8.2 Living!

Facts:

- Though accounting for only 5 percent of the world's population, Americans consume 26 percent of the world's energy.
- Residential appliances, including heating and cooling equipment and water heaters, consume 90% of all energy used in the U.S. residential sector.
- Replacing one incandescent light bulb with an energy-saving compact fluorescent bulb means 1,000 pounds less carbon dioxide is emitted to the atmosphere and \$67 dollars is saved on energy costs over the bulb's lifetime.

What you can do:

- Turn-off lights when you leave your room or an empty common space.
- Switch to energy-efficient compact florescent bulbs.
- Turn off you computer when you're not using it – it does save energy!
 - Set a conservative sleep mode on your computer. While running, a laptop uses on average 30 watts/hour. If left on at a night, this totals 360 wasted watts/night, or 131,400 watts/year. When left in sleep mode, computers use on average 3 watts/hour—which totals 36 watts/night (90 percent less than leaving it running) but still wastes 13,140 watts/year.
- Shut off all faucets and showers tightly and report leaks to your house manager or dorm custodian.
- Take shorter showers.
- Report drafty doors, windows and areas to your house manager or dorm custodian.
- Adjust the thermostat instead of opening the window to regulate the temperature.
- Turn off the A.C. and open the window on nice days in the summertime.
- Use a ceiling fan in the summer: it uses 98% less energy than A.C. and can make you feel up to 6 degrees cooler.
- When buying electronics such as refrigerators and microwaves, look for EPA energy star certifications.
- Take care of your bike, computer and clothes to extend their lives.
- Donate old dorm room furniture and appliances to Sustainable Move-Out at the end of the year. <http://www.dartmouth.edu/~moveout/>
- Dispose of hazardous wastes like batteries and broken refrigerators properly.

Resources:



- <http://www.myfootprint.org/> *Calculate your ecological footprint and try to reduce it.*
- <http://www.awwa.org/waterwiser/> *Water conservation.*
- <http://www.rmi.org/> *Water and Energy conservation*
- <http://www.encyvermont.com/pages/Common/askrachael/> Direct your questions to Rachael – great site!www.greenlivingnow.com *Green Living Now, LLC--The Trusted Online Source of Truly Organic and Natural Products: Huntington, VT 05462 802-434-3813, 1-888-GREEN-08.*
- *Efficiency Vermont* www.encyvermont.com/pages/Business/ Energy saving tips, building efficiently, energy-efficient equipment and services, lighting and HVAC.

8.3 Studying!

Facts:

- Using recycled paper uses 60% less energy than manufacturing paper from virgin timber.
- One ton of uncoated virgin (non-recycled) printing and office paper requires the use of 98 tons of various resources and uses 24 trees. If this paper is 100% recycled content, no new trees are used.
- Producing recycled paper causes 74 percent less air pollution, 35 percent less water pollution, and creates 5 times the number of jobs as producing virgin paper does.

What you can do:

- Buy used books.
 - Use Dartmouth's Exchange to find used books and to sell your own:
<http://basement.dartmouth.edu/exchange>
- Print double-sided and use bleach-free 100 % recycled paper as much as possible.
- Reuse paper that has been used on one side. Possibilities include notes, drafts, and sketches. Or put it back in your personal or office printer. There are also one-sided paper drop boxes by most of the greenprint stations around campus.
- Edit papers on your computer instead of printing them.
- When you can, do your reading for your classes online instead of printing out articles.
- Take notes for class on your laptop.
- Instead of handing in hard copies, ask your professors if you can blitz them your assignments.
- Adjust page margins, line spacing and font-size to reduce page-length for documents that must be printed.
- Use a dry-erase board instead of sticky notes to write reminders to yourself.
- Reuse 3-ring binders from last term.
- Buy reusable and durable supplies such as rechargeable batteries and mechanical pencils. All the local bookstores sell post-consumer waste notebooks, bond paper and flashcards.
- Buy supplies with the maximum post-consumer recycled content available.

Resources:

www.wheelockbooks.com
<http://dartmouthbooks.bkstore.com/>
www.amazon.com *Find all sorts of used books and texts!*
<http://eetd.lbl.gov/Paper/>
http://www.foe.co.uk/living/tips/reuse_paper.html
<http://www.udel.edu/topics/printless/how.html>

8.4 Eating!

Facts:

- Almost 60 percent of the municipal solid waste produced in the United States (including paper) is compostable material.
- Food is the #1 least recycled item of all waste materials.
- Landfills contain more food and paper waste than diapers, Styrofoam, and tires combined.

What you can do:

- Get food “for here” instead of “to go.”
- If you have to get something to go, choose foods without lots of excess packaging.
- When possible, compost your leftover food, milk cartons and cardboard take-out containers.
- Become a member of the Sustainable Dining Club and ask for a sustainable take-out container at Collis. Blitz ‘wastefree’ to sign-up.
- Use an eco-mug for your coffee, soda or dispensed drinks and get 20 oz for the price of 16 at any DDS location.
- If you take serve ware from DDS, please return it! DDS loses over \$40,000 of china, silverware and trays each year and we all end up paying for it.
- Bring a Nalgene or reused water bottle to class instead of buying a new water-bottle every day. Fill it up at one of the numerous water fountains around campus.
 - Or drink normal tap water! Hanover town just installed a high-end water filtration system, so tap water is now safe to drink.
- Keep reusable cups, plates, bowls and silverware in your dorm room.
- Buy food in bulk to keep in your dorm room, instead of individual packets. For example, big boxes of cereal, gallons of milk, and large bags of coffee.

Take a copy of the Dartmouth that has already been read by someone instead of taking a new one off the rack.

Resources:

- <http://www.dartmouth.edu/~dds/> All information regarding dining—schedules, meals, waste, recycling practices—can be found here.
- <http://www.dartmouth.edu/~sustain/dining.html> Read about the Sustainable Dining club!

8.5 Partying!

Facts:

- Making new aluminum cans from used cans takes 95 percent less energy and 20 recycled cans can be made with the energy needed to produce one can using virgin ore.
- It takes 200 to 500 years for one aluminum can to decompose.
- It takes about 450 years for a plastic cup to decompose.

What you can do:

- Recycle cans, glass bottles and plastic cups. Fore Greek houses, have recycling bins clearly marked and easy to access during parties.
- Color coordinate your recycling bins with other houses, so guests will automatically know what goes where.
- Have trash cans and sinks to dump excess liquid and food into to avoid contaminating the recycled materials.
- Refill your cup instead of getting a new one.
- Buy beverages and food in bulk to cut-down on excess packaging.
- Take a break and find other ways to have fun on campus.
 - Go to an event at the Hop! Tickets for students are always \$5.00 or less. (www.Hop.dartmouth.edu)
 - See a movie at the Hop or at the Nugget (www.nugget-theaters.com).
- Try some sustainable fun activities.
 - Play sports (pick-up games, IM teams, club sports, varsity sports), hike, climb, canoe, go horse-back riding, play golf, swim, jump into the Connecticut River, ski, lounge on the green, do some people-watching, picnic, sun-tan...

Resources:

http://www.eartheasy.com/play_menu.htm Earth Easy--Play Hard but Easy on the Environment: A website full of information on water-sports, eco-friendly boating, hiking, and having fun in your own backyard.

<http://www.dartmouth.edu/~doc/> *The Dartmouth Outing Club* <http://www.picnictips.com/> Tips on how to plan a great picnic (don't forget to leave no trace!)

<http://gorp.away.com/index.html> *GORP*: An adventure site dedicated to providing answers for all of your hiking questions—with great hiking locations, gear, tips, and more.

<http://www.newdream.org/live/fun/index.php> More Fun, Less Stuff

8.6 Getting Around!

Facts:

- The average American spends 72 minutes a day driving.
- The United States consumes about 17 million barrels of oil per day, of which nearly two-thirds is used for transportation.
- A car that gets 20 miles per gallon (mpg) emits approximately 50 tons of global-warming-inducing carbon dioxide over its lifetime.
- Car driving is typically an American's largest footprint item.

What you can do:

- Find an alternate way of getting around campus.
 - Walk! It is said that you can reach any area of campus in seven minutes from the center of the green.
 - Bike! All buildings have accessible bike racks and dorms also have indoor areas for overnight and interim storage. Registering your bike is easy and once you register, S&S will recover the bike if it is lost or stolen. Go to the Department of Safety and Security at 5 Rope Ferry Road (by Dick's House) to register for free.
- Find an alternate way of getting to campus.
 - All Dartmouth Employees and Students may take the Advance Transit, the Stage Coach, and the Town and Country bus systems traveling throughout the Upper Valley FREE.
 - If you have to drive, purchase a hybrid or fuel efficient car. (You also get tax credits!)
 - Take a train (www.amtrak.com) or bus (www.greyhound.com) instead of flying.

Resources:

www.advancetransit.com *Bus schedules for routes around the Upper Valley*

Transfer Services from local cities:

Dartmouth Coach (Service to Boston).....800-637-0123 or 603-448-2800 www.concordtrailways.com
Vermont Transit (Service to Manchester airport and more)..... 800-552-8737 www.vermonttransit.com
Dartmouth Regional Airport Service..... 800-395-3479 or 603-641-4777
Upper Valley Sedan Service..... 866-632-7570 www.uppervalleysedan.com
George's Shuttle.....802-263-5627 or 800-208-3933 www.georgesshuttle.com
North Country Auto Rental.....603-448-0538 (rental cars for students 18-21, airport shuttles)
Lebanon Taxi..... 603-448-7027 (long distance available)
Big Yellow Taxi..... 603-643-8294 (airport and long distance)

8.7 Alternative Careers!

Facts:

- There are hundreds of lucrative careers available that deal with environmental issues.
- Environmental careers range from local farm management to international treaty negotiations.

What you can do:

- Make a living directly promoting the environment.
 - With concentrations in fields such as Environmental studies, earth science, biology, ecology, chemistry, and geography, you can find careers in a myriad of areas within environmental issues. These areas include, but are certainly not limited to, research, data collection and modeling, park management, policy formulation and analysis, environmental education, field work, fisheries and wildlife management, forestry, resource management, international development, agriculture, conservation.
 - Jobs can be found in both the public and private sector, with NGOs and with think-tanks, with businesses and with non-profit groups.
- Find a career that indirectly handles environmental issues.
 - Fields such as government, public policy, anthropology, economics, engineering, film and television studies, sociology, history, and area studies all can impact the environment. Jobs can be found in politics, campaign management, policy formulation, historical or social analysis research, education, journalism, international relations, architecture, packaging, engineering, international development...
- **Consult career services.**
 - Register with Career Services (<http://www.dartmouth.edu/~csrc/>) for job & internship listings, advising notes, on-campus recruiting, and information regarding programs/opportunities relevant to your interests.
 - Call 646-2215 to schedule a ½ hour consultation appointment
 - Walk in for a quick consultation Monday-Friday 1:30-4:30.
 - Register with MonsterTrak at the career services website.

Resources:

Career Services--<http://www.dartmouth.edu/~csrc/> (603) 646-2215 63 S Main St. (2nd floor)
<http://www.ecojobs.com/index.php> Look through 500 different environmental jobs and career opportunities! **Free of charge:** receive urgent job vacancies, in the fields you are targeting, via email.

9.2 Eco-Audit (V.E.I.) for a home, dorm, or Greek house

Instructions: Please fill out this work sheet. We will use it as a basis for a conversation on ways to reduce, reuse, recycle and use fewer toxics and less energy at work and home. **Put a check in the space if the answer to the question is yes.** This checklist is for your use only.

RECYCLING

1. ___ Does your residence recycle:
 paper? newspapers? magazines? box board? cardboard?
2. ___ Does your residence recycle non-deposit plastic bottles (water, juice and other small-mouthed bottles?)
3. ___ Does your residence recycle non-deposit glass, aluminum and metal?
4. ___ Does your residence redeem deposit containers?
5. ___ Does your residence use unbleached (chlorine free), post-consumer recycled content:
 Facial tissue? Copy Paper? Paper towels? Toilet paper?
6. ___ Does your residence compost food scraps?
7. ___ Does your residence compost yard, garden and other organic waste?

REUSING

1. ___ Is most of the paper in your residence used on both sides?
2. ___ Do you use 2nd hand scrap paper?
3. ___ Is any of your furniture 2nd hand?
4. ___ Do you reuse containers for meals?
5. ___ Does you have and use reusable dishes? mugs? utensils? hand towels?

REDUCING

1. ___ How much trash do you discard each week? Size of container _____
 one container/day one container/week one container bi-weekly
2. ___ How much material does your house recycle each week? Size of container _____
 one container/day one container/week one container bi-weekly

3. ___ Can you control the temperature of your residence?
4. ___ The winter temperature is _____. The summer temperature is _____.
5. ___ Do you have a programmable thermostat(s)?
6. ___ What percentage of lighting is fluorescent? ___%
7. ___ Do you turn off the lights if you'll be away for more than 5 minutes?
8. ___ Do you turn off your computer if you're away more than 30 minutes?
9. ___ Do your residence's showers have low-flow showerheads?
10. ___ Has your residence had an energy audit?
11. ___ Has your residence taken steps to improve its energy efficiency?

TRANSPORTATION & ENERGY SAVINGS

1. ___ Do you walk or bike to work/class?
2. ___ Do you take the bus?
3. ___ If you have a vehicle, how many miles/gallon does it get?
 10-20 mpg 20-30 mpg 30-40 mpg more than 40 mpg

OTHER

1. ___ Are there native plants (rather than a lawn) surrounding your house?
2. ___ In your kitchen, are there cleaning supplies with labels marked
 caution warning danger?
3. ___ In bathrooms are there items with labels marked
 caution warning danger?
4. ___ Is the area around your residence watered in the summer?
6. ___ How many days per week do you wear clothes that must be dry-cleaned?
7. ___ Would you submit most of your work via e-mail if you were permitted?
8. ___ Does your community discuss reducing the workplace's ecological footprint?
9. ___ Have any members of your community participated in a program that educates or encourages reducing your ecological footprint?

This checklist was developed by the **Vermont Earth Institute** (c) 2006
VEI, P.O. B 466, Norwich, VT 05055 (802) 333-3664 vei@valley.net www.vtearthinstitute.org 7/31/06

9.3 Sustainability Survey

Directions: Hand/Blitz out the following survey to members of your dorm or house. This will help you find support for instituting sustainable practices.

1. Put in order the sustainable practices that you think are most important to our community (1 as the most important, 9 as the least):

- ___ Recycling cans in the basement (Greek Houses)
- ___ Establishing recycling throughout the residence
- ___ Establishing composting in the residence
- ___ Bringing up sustainability at meetings
- ___ Reducing energy usage by supporting turning off TVs, computers, and lights when not in use.
- ___ Establishing a system for discarding hazardous waste properly.
- ___ Reducing waste by discouraging use of disposable plates, cups, mugs, and silverware
- ___ Reducing waste by encouraging care of current china, furniture, and appliances
- ___ Purchasing Energy Star and environmentally friendly appliances

2. Please list at least one of the above activities that you would like to see instituted at our residence.

3. Please list one of the above activities that you would like to help institute at our residence.

4. If we hosted a two-hour sustainability retreat at our residence, where we generated ideas for environmentally-friendly living, how likely would you be to attend?

_____ Very Likely _____ Likely _____ Somewhat Likely _____ Not Likely

5. What ideas do you have that we didn't mention above? If you have suggestions, please list them here.

9.4 Sustainability Action Options

<p>Sustainability Action Options:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strong Interest: I'd like to attend a Sustainability Retreat for my dorm or house this term to develop a Sustainability Action Plan. (3 hours long) <input type="checkbox"/> Medium Interest: I'd like to attend a Sustainability Brainstorming Session for my dorm or house this term to identify possible projects. (2 hours long) <input type="checkbox"/> Mild Interest: I'd like to help my residence conduct an ECO-AUDIT. Please send me the Sustainability Survey so I can let you know the sustainability steps I'm willing to take. <input type="checkbox"/> Pressed for Time: I support this effort but have little time. However, I would like to help in some way. If there is one thing I'd like to see changed around here this term it is: _____ <p>Blitz me when you need help. Blitz: _____</p>	<p>Sustainability Action Options:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strong Interest: I'd like to attend a Sustainability Retreat for my dorm or house this term to develop a Sustainability Action Plan. (3 hours long) <input type="checkbox"/> Medium Interest: I'd like to attend a Sustainability Brainstorming Session for my dorm or house this term to identify possible projects. (2 hours long) <input type="checkbox"/> Mild Interest: I'd like to help my residence conduct an ECO-AUDIT. Please send me the Sustainability Survey so I can let you know the sustainability steps I'm willing to take. <input type="checkbox"/> Pressed for Time: I support this effort but have little time. However, I would like to help in some way. If there is one thing I'd like to see changed around here this term it is: _____ <p>Blitz me when you need help. Blitz: _____</p>
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9.5 Brochure -- Attached

9.6 Works Cited

http://www.rafb.com/pages/business/Green_chklist.html
<http://www.perc.ca/waste-line/rrr/office/ch11-list.html>
www.dartmouth.edu/~fom
http://www.chicagorecycling.org/index.php?option=com_wrapper&Itemid=108
<http://www.nrdc.org/cities/recycling/ften.asp>
www.mcswmd.org/Miscellaneous/Trivia.html
www.commondreams.org
www.worldwatch.org/brain/features/trivia/quiz.php?quiz=3&
www.worldwatch.org/brain/features/trivia/quiz.php?quiz=1&
www.worldwatch.org/brain/features/trivia/quiz.php?quiz=2&
www.greenpeace.org
www.motherjones.org
www.eatlocalvt.org/homegrown.pdf
<http://www.worldwatch.org/>

9.7 Sustainability Resources:

Dartmouth College

The Dartmouth Sustainability Initiative: <http://www.dartmouth.edu/~sustain/>
The Environmental Studies Program: <http://www.dartmouth.edu/~envs/>
The Dartmouth Organic Farm: <http://www.dartmouth.edu/~doc/organicfarm/>
The Green Magazine: <http://www.dartmouth.edu/~tgm/>
The Resource Working Group: <http://www.dartmouth.edu/~rwg/>
Recycling: <http://www.dartmouth.edu/~fom/services/solidwaste/>
Energy Conservation: <http://www.dartmouth.edu/~sustain/tips.html>
Environmental Groups: <http://www.dartmouth.edu/~rwg/groups.html>
Sustainable Move-out: <http://www.dartmouth.edu/~moveout/>

Upper Valley

Recycling/energy info: <http://newhampshire.earth911.org/master.asp>
Vermont Law School: <http://www.vermontlaw.edu/>
Sterling College <http://www.sterlingcollege.edu/>
The Sustainability Institute: <http://www.sustainabilityinstitute.org>

The New Hampshire Sierra Club: <http://www.nhsierraclub.org>
The Hanover Conservation Council: <http://www.hanoverconservationcouncil.org>
Valley Net Community Organization Pages:
<http://www.valley.net/communityOrganizations/>
The Association of Vermont Recyclers: <http://www.vtrecyclers.org/>
League of Women Voters of New Hampshire: <http://www.lwvnh.org/>
N.H. Department of Environmental Services: <http://www.des.state.nh.us/>
Efficiency Vermont: <http://www.encyvermont.com>
The New Hampshire Office of Energy and Planning: <http://www.nh.gov/oep>
Vital Communities: <http://www.vitalcommunities.org/>
The Upper Valley Land Trust: <http://www.uvlt.org/>
Vermont Feed: <http://www.vtfeed.org/>
D Acres Community: <http://www.dacres.org/>
NOFA Vermont: <http://www.nofavt.org/>
NOFA New Hampshire: <http://www.nofanh.org/>
Center for Sustainable Agriculture: <http://www.uvm.edu/~susagctr/>
Localvores: <http://www.locavores.com/>

National

The Association for the Advancement of Sustainability in Higher Education: <http://www.aashe.org/>
Grist: <http://www.grist.org/>
Environmental News Network: <http://www.enn.com/>
Mother Earth News: <http://www.motherearthnews.com/>
The New American Dream: <http://www.newdream.org/>
Campus Climate Challenge: <http://climatechallenge.org/>
Simple Living Network: <http://www.simpleliving.net/main/>
Global Footprint Network: <http://www.footprintnetwork.org/>
Calculate your Ecological Footprint: <http://www.myfootprint.org/>
Campus Ecology: <http://www.nwf.org/CampusEcology/dspGreeningProjects.cfm?iid=4>
Union of Concerned Scientists: http://www.ucsusa.org/global_warming/
Clean Air Cool Planet: <http://www.cleanair-coolplanet.org/>