

How Cool is Your School—environmentally, that is...
A tool for assessing the ecological footprint for colleges and universities
 New Community Project

Ecological Footprint is the amount of the earth's productive capacity a person draws on to meet their consumption patterns. If the world's productive land and coastal areas were divided evenly among the world's 6-plus billion people, there would be about 4.5 acres per person. Currently, the average global per capita footprint is 5.1 acres, so that overall, the human family is over-budget. But it gets worse: over 50 of the poorest nations in the world have a per capita footprint of below 4.5 acres, while North Americans draw on average 23.7 acres per person. Another way of looking at this latter statistic: if all the world's people lived like North Americans, we would need four more planets to provide for us.

Typically, footprint analysis is done for an individual person. In the university setting, however, many important decisions concerning consumption are out of the individual students' hands. Therefore, the New Community Project has developed a tool for combining individual and institutional environmental impact in the higher education setting. It works like this: students are given the opportunity to evaluate their own consumption patterns; these are then combined and an average footprint is determined for the student body. This is then combined with the institutional footprint to determine the overall grade of the school. (It is important to secure a good cross-section of the student population—in other words, it is better not to have just the Environmental Club fill this out!) We have also included an estimation of how much carbon dioxide the campus creates per week by its use of energy—and how many acres of trees it takes to capture this much CO₂.

Student Footprint

- | | |
|---|-------------|
| 1. Transportation | Points ____ |
| ▪ I have a car, and use it almost daily | 0 |
| ▪ Have a car, but hardly use it | 5 |
| ▪ Don't have a car on campus | 10 |
| Bonus: I own a bike and use it | 1 |
| If you use a car, estimate the average miles driven each week _____ | |

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|---|-------------|
| 2. Food I | Points ____ |
| ▪ I have meat of some kind 2-3 times/day | 0 |
| ▪ I might have meat once a day | 2 |
| ▪ It's unusual for me to eat meat more than a couple times a week | 4 |
| ▪ Practically or actually vegetarian | 6 |
| ▪ Hardly any meat AND I intentionally try to buy organic foods and beverages | 8 |
| Bonus: I have given up eating some kind of food for ecological reasons (e.g.: shrimp, as raising and/or harvesting them is destroying coastal ecosystems) | 1 |

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|---|---|
| 3. Food II | |
| ▪ I eat snack food (chips, candy, etc.) or fast food every day | 0 |
| ▪ I may eat junk food a couple times a week | 1 |
| ▪ I don't touch the stuff | 2 |
| Bonus: I won't use paper plates or cups at the snack shop or wherever they're offered | 1 |

4. Showers	Points ____
▪ Typical daily shower of 10+ minutes	0
▪ 7-10 minutes	2
▪ 5-7 minutes	4
▪ 3-5 minutes of water running	5
▪ 3 minutes and out	6

5. Bottles/cans	Points ____
▪ I buy more than one packaged drink per day	0
▪ I buy more than one, but always recycle them	1
▪ I average one or less per day and always recycle them	2
▪ I never buy beverages in bottles or cans	4
Bonus: I regularly pick up cans/bottles (or fish them out of the trash) to recycle	1

6. Appliances	Points ____
▪ I have my own frig, stereo, computer	0
▪ I share most appliances with other people	2
▪ I don't own appliances like these	4
Bonus: I always cut off lights, shut down computer, etc. when finished	1

7. Paper	Points ____
▪ No real effort to buy paper with recycled content and I use clean paper for all my projects	0
▪ Paper I purchase is at least 30% recycled	2
▪ Only buy 100% post-consumer waste and use both sides of paper religiously	4
Bonus: I buy toilet paper with recycled content	1

8. Television	Points ____
▪ Have one in the room and watch it daily	0
▪ Have one, but watch it a couple times a week	1
▪ Have one, but lucky to have it on in a week	2
▪ Don't have one in room and hardly ever watch TV	4

9. Clothing	Points ____
▪ I buy what I want when I want it	0
▪ I wear things out and buy only then	1
▪ I wear things out and shop Goodwill	2
▪ I buy only clothes made of organic materials	3

10. Eco Aware	Points ____
▪ Don't know what you're talking about	0
▪ Have taken an enviro class or attended an enviro convo or seminar	2
▪ Have written Congress on an enviro issue and/or joined an enviro group of some kind	4
▪ Live on another plane of enviro consciousness	6

Scoring	Total Points ____
50 or above=A (Footprint of 10 acres or less)	
35-49=B (Footprint: 10-12 acres)	
25-34=C (Footprint: 12-15 acres)	
15-24=D (Footprint: 15-20 acres)	
below 15=F (Footprint: 20+ acres)	

Notes on Student Footprint

Transportation: The Union of Concerned Scientists puts personal car use as the worst enviro action of US consumers. Every mile driven puts on average one pound of CO₂ (global warming gas) into atmosphere. Fossil fuel pollution will take 8 months off each of our lives. And every mile not driven spares .0001 squirrels and other small furry creatures from untimely and gruesome demise.

Showers: A 7-minute shower uses more clean water (35 gallons) than 1.1 billion of the world's people have access to in a week. Heating water for showers can create as much as 1500 pounds of CO₂ per person per year.

Bottles/cans: US'ers throw away 30 million water bottles per day. Not recycling an aluminum can is like filling it half full of gasoline and pouring it out (energy equivalent saved by recycling one can).

Food I: Meat consumption, and especially beef, is responsible for a high percentage of US water pollution (16%), water consumption (can require 8000 pounds of water to produce one pound of beef), land use (45% of all US land is for pasture or raising grain for livestock), and endangerment of other species (25% of US endangered species are threatened due to destruction of habitat for raising livestock). 80% of Amazon deforestation (total deforestation of approx. 6 million acres/year) is a result of clearing land for cattle pasture, with much of this beef shipped abroad, including to a fast food place near you.

Food II: US'ers pitch about a pound of packaging per person per day, and a good chunk of this is from snack foods and fast food; 40% of litter is either fast food or snack food packaging.

Paper: Making one pound of paper from trees takes 3½ lbs. of wood and creates 3 pounds of CO₂. 20% of the world's deforestation is for paper production. Paper manufacture is the number one source of water pollution in the US. 75% of tree farms for paper production in Southeastern USA occupy formerly diverse forest land—tree farms have 95% less biodiversity than natural forests. One person using toilet paper with 100% recycled content saves 1 tree every 12 years.

Television: TV is the no. 1 promoter of the consumer culture, both in the US and around the world. The average college student watches 24 hours of television per week. At an average of 20 minutes of advertisements per hour, that's over 400 commercials per week and 20,000 commercials per year.

Clothing: Cotton is the most toxic crop in the world: 25% of all the world's insecticide use is for raising cotton, yet cotton grown on only 3% of the world's farmland. Clothing is also one of the most widely traveled commodities in the world, with over 80% of clothing in US stores coming from abroad. This requires fossil fuel to ship: 60,000 container ships arrive at US ports each year. One of these ships traveling one mile creates as much pollution as a car driving around the world.

Sources: Consumer's Guide to Effective Environmental Choices (Union of Concerned Scientists); State of the World 2004 (World Watch Institute); Nielson Ratings; New York Times; United Nations Development Program; Organic Consumers Association; Toiletpaperworld.com.

School Footprint

1. Energy I	Points ____
▪ Have not had an energy audit in past 10 years	0
▪ Had an energy audit in past 10 years	3
▪ Had audit, implemented most recommendations	5
Bonus: dorm showers have flow-restrictor shower heads	1
2. Energy II	Points ____
▪ No structures have automated sensors to regulate heat, light and water use	0
▪ Some buildings have these features	3
▪ Most buildings have these features	5
Bonus: low-flush toilets in all buildings	1
3. Energy III	Points ____
▪ Most buildings have incandescent lighting	0
▪ Florescent lighting in many buildings	3
▪ All buildings have been fitted with florescent lighting and have motion sensors	5
4. Paper	Points ____
▪ There is no campus policy regarding purchasing recycled paper	0
▪ An effort is made by some departments to purchase recycled paper	2
▪ Campus-wide purchasing of paper with high (more than 30%) post-consumer content	5
Bonus: school purchases toilet paper with high recycled content	1
5. Food services I	Points ____
▪ There is no effort to purchase organic or locally-grown products	0
▪ A few items on the menu are organic or locally-grown	3
▪ A priority is given to seeking out locally-grown and organic products	5
Bonus: food waste is composted (can save thousands of dollars per year in trash fees or by using compost as mulch!)	1
6. Food services II	Points ____
▪ Few if any vegetarian entrée options	0
▪ Several appealing vegetarian options offered	3
Bonus: efforts are made to educate students about the ecological costs of meat- based diets, the value of eating organic foods, and the importance of reducing food waste	1
7. Lawn care	Points ____
▪ Large areas of the campus open space is regularly mowed in summer; chemical fertilizers and lawn treatments applied	0
▪ Some areas are left to grow naturally and/or efforts are made to limit chemical inputs	3
▪ Many areas intentionally not mowed and no chemical inputs are applied	5

8. Transportation Points ____

- Most college vehicles are “standard” cars and trucks, not intentionally fuel-efficient or hybrid 0
- The college has a few high-mileage vehicles 2
- Most college vehicles are high-mileage 5

Bonus: the college discourages student car use by limiting parking spaces or other means 1

9. Materials Points ____

- The campus has a few recycling bins 0
- Recycling containers throughout campus 2
- There are incentives for recycling: lack of trash cans in classrooms, deposits on beverage containers, and charges for trash collection 4

Bonus: the school provides reusable mugs for student use in cafeteria or snack shop 1

10. Academics Points ____

- There are no course offerings related to environmentally sustainable living 0
- A course or two is offered 2
- Earth stewardship is an interdisciplinary priority 5

Bonus: there has been at least one campus-wide effort to promote care for the earth (convo, Earth Day emphasis, contest between dorms) in the past year 1

Score **Total Points** ____

50 or above=A (Per Student Footprint of 10 acres or less)
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CO2 totals

Average miles driven per student per week (total miles driven by survey participants divided by number of surveyed students). Multiply by number of students on campus. This equals average pounds of CO2 per week emitted by student vehicles (on average, every mile driven creates one pound of CO2).

Total: _____ pounds of CO2 per week from student car use.

How many kilowatts of electricity are used per week on average by the school _____ Multiply by 1.5 (average pounds of CO2 generated per kilowatt by electricity sources in US)

Total: _____ pounds of CO2 per week from electricity use.

How many therms (=1000 btu’s) of natural gas is consumed during the average week on campus? _____ Multiply by 12 (approximate pounds of CO2 per therm)

Total: _____ pounds of CO2 per week from natural gas consumption.

Grand total CO2 emissions per week from these three sources: _____ x 52 (weeks) = _____
 Total: _____ pounds of CO2 per student per year

The average temperate forest sequesters approximately 3 tons of CO2 per acre per year (US DOE).

Acres of forest needed to absorb the college’s annual CO2 emissions from direct energy use: _____

(Note: This does not include CO2 emissions related to food production and transport, or from material consumption and disposal. Food production in general represents about 12 percent of US global warming gas emissions (Union of Concerned Scientists).)

Notes on Institutional Footprint

Energy I: Flow-restrictor shower heads can reduce flow of heated water by 50%--or 2.5 gallons per minute.

Energy III: one compact florescent bulb can save 570 kw of electricity (approx. \$50) over 10 years, and 200 pounds of CO2.

Paper: Making one pound of paper from trees takes 3½ of wood and creates 3 pounds of CO2. 20% of the world's deforestation is for paper production. Paper manufacture is the number one source of water pollution in the US. Every ton of paper recycled saves 7000 gallons of water, 463 gallons of oil, 587 pounds of air pollution, 3 cubic yards of landfill space, 4077 kilowatts of electricity and about 3 tons CO2. Buying 100% recycled content toilet paper saves one tree per year for every 12 students.

Food services I: By one estimate, the US wastes from one-third to one-half the food it harvests. The nation's colleges create 4.5 million pounds of food waste per meal. Reducing food waste by half could reduce by 25% adverse environmental impacts such as soil depletion, run-off of fertilizers and pesticides, need for landfill space (12% of municipal waste is discarded food). One study finds that of the 350 billion pounds of food harvested, 100 billion pounds is wasted—and it would only take 4 billion pounds to feed the over 30 million hungry people in the US.

Food service II: Locally-grown products require 4-17% less petroleum than foods shipped to their destination (the average food item travels 1500-2500 miles from farm to table). The earth can provide an adequate diet for 7 billion vegetarians, but only 3.5 billion people with meat-based diets.

Lawn care: Pesticides and fertilizers on lawns are responsible for 10% of all water pollution in the US. Mowing the lawn for one hour has the same environmental impact as driving a car 55 miles.

Materials: Every ton of materials recycled eliminates 620 lbs. of CO2, 30 lbs. of methane, 2-5 lbs. of soot and ash.

Sources: Consumer's Guide to Effective Environmental Choices (Union of Concerned Scientists); State of the World 2004 (World Watch Institute); Foodproductiondaily.com; US EPA; E Magazine, March/April 2005; Toiletpaperworld.com

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