

TRANSFORM

Campus climate neutrality toolkit

Institutions of higher learning are the ideal place to lead the way in sustainability initiatives.

We have compiled this toolkit for students, faculty, and staff that are looking for ways to infuse curriculum and campus with lessons of sustainability.

The Campus Climate Neutrality Toolkit is organized in eight easy steps.

- Step 1: Committing to climate neutrality
- Step 2: Create a culture of sustainability
- Step 3: Buildings
- Step 4: Fleet
- Step 5: Transportation
- Step 6: Campus dining
- Step 7: Solid waste minimization
- Step 8: Carbon offsets

Why campus sustainability?

- Given their mission to educate the next generation, colleges inherently focus on shaping the future.
- Since they are not driven solely by the bottom line, universities have more flexibility to experiment and test new ideas.
- They are rooted permanently in their community, so they must care about places over long periods of time.
- Since their customers (students) are interested in sustainability, such programs are good marketing.
- As custodians of campuses, they must address buildings, energy systems, vehicles, and food.



Baldwin-Wallace College in Berea is one of the region's leaders in sustainability, with a undergraduate major and ongoing student initiatives.

▲ 1. Committing to climate neutrality

Joining AASHE

The Association for the Advancement of Sustainability in Higher Education promotes sustainability in all sectors of higher education through education, communication, research and professional development. Membership covers everyone on campus and costs \$250-\$1500 depending on the size of the institution. Members receive access to AASHE's resource center, a weekly e-newsletter, professional awards, directories of other campuses dedicated to sustainability, workshops and trainings.

Signing the American College and University Presidents Climate Commitment (ACUPCC)

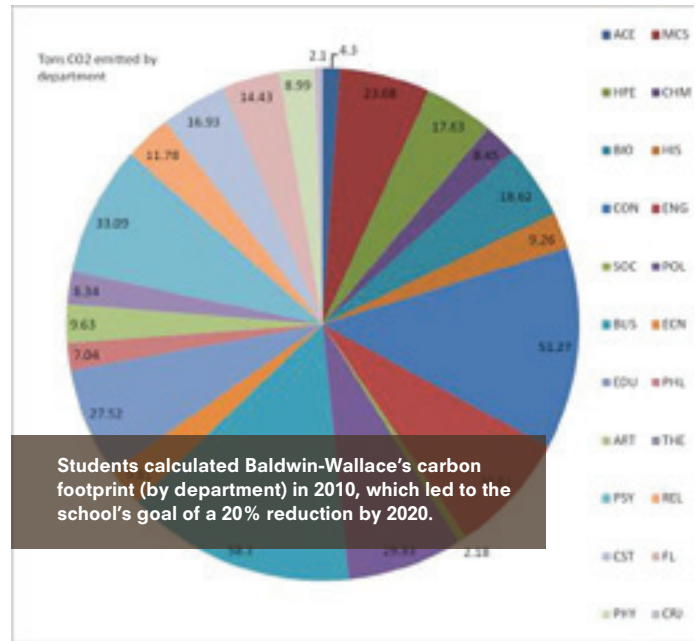
The college and university presidents and chancellors who sign the commitment set their institution on the path to climate neutrality. They recognize doing so will stabilize and reduce their long-term energy costs, attract top students and faculty, attract new sources of funding, and increase the support of alumni and local communities. The commitment involves completing an emissions inventory; within two years, setting a target date and interim milestones for becoming climate neutral; taking immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions; integrating sustainability into the curriculum and making it part of the educational experience; and making the action plan, inventory and progress reports publicly available.

Create the institutional structure to develop and implement the plan

Some common institutional structures include creating a Sustainability Office, hiring a Sustainability Coordinator, and creating a Sustainability Committee comprised of professors, students, facilities managers, and administrators. It will take cooperation across many offices to achieve climate neutrality, so it is important to have a diverse group represented in the development and implementation plan.

Completing a greenhouse gas inventory

Calculating the greenhouse gas inventory of an institution is an important first step to achieving climate neutrality. By creating a GHG inventory, an institution can get an idea of what sectors carbon emissions are coming from and



opportunities to tackle some low-hanging fruit. It is also necessary to have a baseline from which future benchmarks can be created. The most common carbon calculator used is the one developed by Clean Air Cool Planet.

Creating an action plan

A climate action plan should lay out goals, target dates, interim targets, curriculum goals, and mechanisms for tracking progress.

Financing

Grants, alumni donations, student fees, and facilities are all common sources for funding for sustainability initiatives. An innovative method for funding sustainability initiatives is called a Revolving Loan Fund which calculates energy savings and puts them back into a separate account so that they can fund more sustainability initiatives, perhaps those with longer payback periods. ▶



▲ 2. Create a culture of sustainability

Sustainability Coordinator

The position of sustainability coordinator or manager is becoming more common on college campuses. This person serves as the go-to for sustainability issues while overseeing sustainability initiatives on campus. They might report to a facilities manager, the provost, the vice president of finance, environmental health/safety office, academic center or department. Funding for this position can come from the general fund, grants, alumni donations, or student fees.

Resources:

"A practical guide to hiring a sustainability professional for universities and colleges" (Source: AASHE)

Student groups

Students can have a tremendous influence at universities to persuade administrators and their peers to make the campus more sustainable. Universities with the strongest campus sustainability initiatives usually have student groups behind the scenes that are constantly pushing their home institution. The projects that student groups can work on are endless; everything from making recycled notebooks to advocating that their president sign the President's Climate Commitment.

Don't know where to start? Try browsing through this document and picking a few doable projects. Breaking a bigger group up into committees is often helpful to get more people involved and to further their reach.

Environmental committee

The purpose of an environmental committee is to oversee the implementation of environmental and sustainability initiatives. The committee should include members from many different areas of campus, including faculty, students, sustainability coordinator, provost, vice president of finance, facilities, development, and the local community.

Environmental/sustainability policies

An environmental policy provides the formal recognition of sustainability as a campus priority. The policy should include education (both in and out of the classroom for students, faculty, and staff), transportation, recycling, waste reduction, electricity and water conservation, building practices, purchasing, food, grounds, and how the policy will be monitored and implemented.

Competitions and incentives

People respond to incentives. No new news there! But incentives can promote sustainability on campus in a variety of ways. Give prizes for people that come up with great ideas or that inspire others to live green. Contests to reduce energy use or for recycling are great ways to get people to be more conscious of their impact.

Sustainability fair

With so many initiatives on campus, it can be hard to keep track and offer them visibility. Have a fair with a table for each initiative and student group. This is a great time to network and sign up volunteers. Oh, and food helps too!

Eco-reps

Many students want to reduce their ecological footprint, but run into questions in the process. Which plastics can be recycled? Where can I compost on campus? Establishing student eco-reps in every dorm or every cluster of dorms can provide students with a point-person to get answers.

Imprinting

New faculty, staff and students should be informed of the institution's environmental policies soon after becoming a member of campus. Booklet guides or an e-mail blast with an outline of useful information and resources are common.

Campus sustainability presentation or panel

A campus sustainability presentation or panel is a great way to let new and returning students know what options are available to get involved in sustainability on campus. This is also a great time to explain the history of sustainability at the institution and lay out goals for the academic year.

Signage

This basic tool can work wonders to educate a wide range of audiences. Signs next to recycling bins, sink faucets, or bathroom stalls will reach everyone in the building.

Waste audits

A waste audit is a sampling of waste baskets around the school to see what is being thrown away. What percent (by weight or volume) is recyclable? After completion, an environmental committee, student group or class can brainstorm ways to reduce waste. Don't keep the results to yourself! Small information sheets can be taped up near trash cans explaining the results from a waste audit.

Orientation, commencement, other events

Another major part of creating a sustainable campus is greening campus-wide events. Events like orientation and commencement also have the benefit of reaching parents. Composting at catered dinners, event programs printed on recycled paper, sustainability panels, eco-film screenings, and no bottled water are all options to consider. For a local example, check out Oberlin's green commencement/reunion weekend. ▶

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Cleveland Museum of
NATURAL HISTORY 

▲ 3. Buildings

Energy audits

Most buildings are not being operated as efficiently as possible. Computers and lights are often left on when not in use, and rooms are often over-heated or cooled. Energy audits can identify these inefficiencies. After an energy audit is completed and analyzed, occupants and facilities managers can be educated about potential solutions such as lighting/occupancy sensors, HVAC improvements, or energy-saving computer modes. To incentivize energy consciousness, competition can be staged with a prize to the winning building or floor (see educational campaigns).

Energy conservation

Lower energy consumption by implementing energy use policies such as regulated thermostat guidelines. See Brown University's Energy Management Policy.

Building retrofitting

You don't have to have a new building to have a green building. Retrofitting HVAC systems, adding insulation, or installing occupancy sensors can all greatly increase the efficiency of an existing building. You may want to pursue LEED-EBOM (Leadership in Energy and Environmental Design for Existing Buildings Operations and Maintenance) certification.

Purchasing renewable energy

Contact your local electric utility and ask if they have options for purchasing renewable energy. If they don't, encourage them to do so!

On-site renewable energy

Solar thermal technology uses energy from the sun to heat water that can be used in a whole house heating system like radiant floor heating. Some solar thermal systems have a payback time of only 5-10 years. Dovetail Solar and Wind is a local company that provides renewable energy installations.

As far as solar goes, Oberlin College currently has the largest array in Ohio. In 2012, the school added a 2.27-megawatt (MW) solar array and signed a Power Purchase Agreement with a company to maintain it. It will be the largest photovoltaic array on any college or university campus in Ohio. (Oberlin previously held that record with a 160-kW array located on the roof of the Adam Joseph Lewis Center for Environmental Studies and on an adjacent parking pavilion).

Solar might not be cost effective for your school, but it does show a campus's commitment to sustainability and provides research opportunities.



Purchasing policy requiring ENERGY STAR appliances

Many schools have purchasing policies that require the purchase of energy efficient appliances when available. ENERGY STAR sets high efficiency standards for certain types of appliances and certifies products that meet or exceed those standards. ENERGY STAR certified appliances are a smart choice since they reduce energy use, energy costs, and emissions. As with many of these policies, it may be useful to have a memo or a meeting to review the policy with staff and answer any questions. For more information, go to Energy Star's page for Higher Education.

Vending machine "misers"

These gadgets are one example of an energy saving device that can save thousands of dollars every year. After the misers have been installed, a motion detector senses when someone is walking by and turns the machine on. Since the machine isn't wasting energy by being on when no one is in the area, electricity use decreases by more than half.

Commit to LEED-Silver for all new campus construction and major renovations

Many campuses are committing to certifying any new construction or renovations to be LEED (Leadership in Energy and Environmental Design) certified buildings. These buildings are not only more energy efficient, saving the institution money, but are also nicer places to live and work, with more natural light and better indoor air quality.

Green Cleaning Products

By using green cleaning products, schools can improve health while reducing toxic pollution and conserving resources and habitats. Green Seal is a non-profit that certifies products such as hand cleaners, electric chillers, cleaners, fleet vehicle maintenance, floor care products, paints, papers, newsprint and windows and doors. See Green Seal's website. ►

▲ 4. Fleet & landscaping

Safety and security

Biodiesel, electricity, and bikes

Safety and security vehicles are great opportunities to test alternative fuels. The stop-and-go nature of patrolling makes hybrids a logical choice for campus vehicles. Bike patrols can also be useful ways to promote health and wellness while increasing interaction between officers and the campus community. Check out the International Police Mountain Bike Association.

Landscaping

Native

Native plants cost less to maintain, use less chemicals and water, and save money! Check out this list of native Ohio grasses.

Low/no-mow

The EPA estimates that using a gas mower for an hour pollutes as much as driving a car at least 20 miles. Here are some alternatives that can reduce the amount of money spent on gas for lawn mowers.

Resources

- Green Your Lawn
- Less Lawn

Stormwater management

As flooding concerns grow, and stormwater fees become more commonplace, colleges and universities are turning to on-site stormwater management as a lower cost defense. Techniques range from landscape treatments such as bio-swales to permeable pavement and underground retention basins that can capture large amounts of rain and allow it to slowly percolate back in to the ground.

Integrated Pest Management

Integrated Pest Management is an ecological approach to pest control that minimizes the use of pesticides with three stages: Prevention, observation, and intervention.

See Cleveland nonprofit group, Beyond Pesticides' summary, "Asthma, Children and Pesticides". ▶



▲ 5. Transportation

Bike lanes

Bike lanes can encourage bike use and discourage driving short distances on campus. By providing bike lanes on campus, inexperienced cyclists feel safer while keeping bikes off of sidewalks.

Free bikes or cheap bikes

Bike-share programs help people get around campus easily by providing the most energy efficient form of transportation. Bike Co-Ops are usually student-run centers where people can go to fix their bike, build their own bike, or rent one for the semester. See Oberlin's Bike Co-op.

Free bikes across campus: Some colleges have bold-colored bikes spread across campus that are free for anyone to use. No sign up or fees necessary, just put them out there! Ripon College in Wisconsin was the first college to give a free bike to every student that didn't bring a car to campus.

Carsharing

With car sharing, you can rent a vehicle for as little as a half-hour. Cars are self-service and parked close to where you live. Here's the best part: when you carshare, the price includes gas, insurance, and maintenance and you only pay for the time you use. A shared car can replace as many as 20 private cars. See Zipcar at Cleveland State University.

Campuses can use ridesharing or carpooling in two ways. First, campus employees living in the same area can ride to work together, saving gas and reducing the number of cars on campus. Ridesharing can be incentivized by providing free or premium parking spaces. Colleges and universities can also organize an online ridesharing program for students to get to and from campus during vacations and breaks. Check out Ohio Rideshare or Zimride.

Parking passes

Money that faculty, staff, and students pay for parking passes can go toward campus sustainability initiatives that might have a long or infinite payback time. And campus members who agree to not bring cars to campus could be given a subsidy.

Local circulator/shuttle routes

By providing a shuttle around campus, students are less likely to drive short distances. This will reduce traffic and carbon emissions on campus.

Pedestrian safety improvements

Check out this guide to creating walkable communities.

Upperclassmen only parking

It is common for schools to not allow first years to bring cars to campus.



Free or discounted public transportation passes

Universal Bus/Transit Passes (U-Passes) allow students, faculty, and staff to ride local transit for free. Funding for U-Passes can come from parking fees, student fees, or general funds. These programs increase public transportation use and decrease the number of cars traveling to and from campus every day.

Remote parking

By having students park in lots that are further from campus, daily driving is discouraged. Some schools require first year students to park in these further lots.

Charter Buses to major cities during breaks

Many students are heading to similar places during the time off from school. By renting a charter bus and selling tickets to cover costs, universities can save their students money while sending them to common destinations.

Increase parking permit fees

High parking passes discourage students from bringing cars to campus. The money from parking passes can go towards funding sustainability initiatives.

Encouraging faculty and staff to live in town

Schools can offer incentives to encourage faculty and staff to live near campus, thereby increasing the sense of community but also reducing the number of commuters. Case, for example, offers a \$20,000 grant to employees who buy a house within a 1/4 mile of campus. ►

▲ 6. Campus dining

Local food

Purchasing local food helps to support local farmers while decreasing the amount of energy that is used to transport food to your plate. Read more at Oberlin's social responsibility page.

Vegetarian options

Did you know that becoming a vegetarian is better for reducing your carbon footprint than driving a hybrid car? Providing adequate options for vegetarians can have a big impact on reducing the college's carbon footprint.

Trayless cafeterias

Removing trays from cafeterias encourages students to only take the food that they will eat rather than just filling up their tray. A nationwide study by Aramark found that taking away trays lowers food waste 25-30 percent. The Plain Dealer recently published an article about John-Carroll University's move to combat waste and elevate awareness of food shortages by going trayless.

Reusable flatware and mugs

Reduce waste by using reusable plates and silverware rather than disposables. Encourage students, faculty, and staff to bring reusable coffee mugs to the campus coffee shop by offering a 10 percent discount for bringing a reusable container.

Takeout boxes

When it comes to takeout boxes, compostable containers are available. These containers cannot be composted in a regular compost pile, but rather an industrial composter. Campuses can purchase their own composter or send their compost to a facility such as Barnes Nursery. Oberlin College has a reusable takeout program.

Waste management

Many campuses are committed to reducing solid waste (and associated fees) through recycling, not selling bottled water and introducing composting in cafeterias. Schools like Baldwin-Wallace College make composting part of their work- and educational offerings. ▶



Students grow their own food at Oberlin College's George Jones Farm.



John Carroll University eliminated trays in their cafeteria to reduce waste and raise awareness of food shortages.

▲ 7. Solid waste minimization

Composting

Composting reduces the amount of waste that is sent to landfills while creating a natural additive that improves soil. UC Davis's Guide on Composting provides a useful outline on how to develop a composting infrastructure.

Recycling program

Recycling diverts reusable resources from sitting in a landfill while saving the college money on disposal costs. The Cuyahoga County Solid Waste District has a helpful guide to Recycling in the Work Place.

Source reduction

Did you know that the amount of waste each person creates has almost doubled from 2.7 to 4.4 pounds per day in the past 35 years? Preventing waste is good for the environment and for disposal costs. This can involve using less paper, energy, or disposable cups.

Furniture

GreenGuard is a non-profit organization that certifies low-emitting products. Also, check out A Piece of Cleveland for office furniture from deconstructed homes in Cleveland.

No bottled water

Americans use 2.5 million plastic water bottles every hour! Reduce this number on campus by removing bottled water from campus stores and eateries. Instead, sell reusable water bottles with the college's logo and provide glasses and pitchers of water at events.

RecycleMania

RecycleMania is a popular competition between schools that promotes campus recycling programs and waste reduction. ►

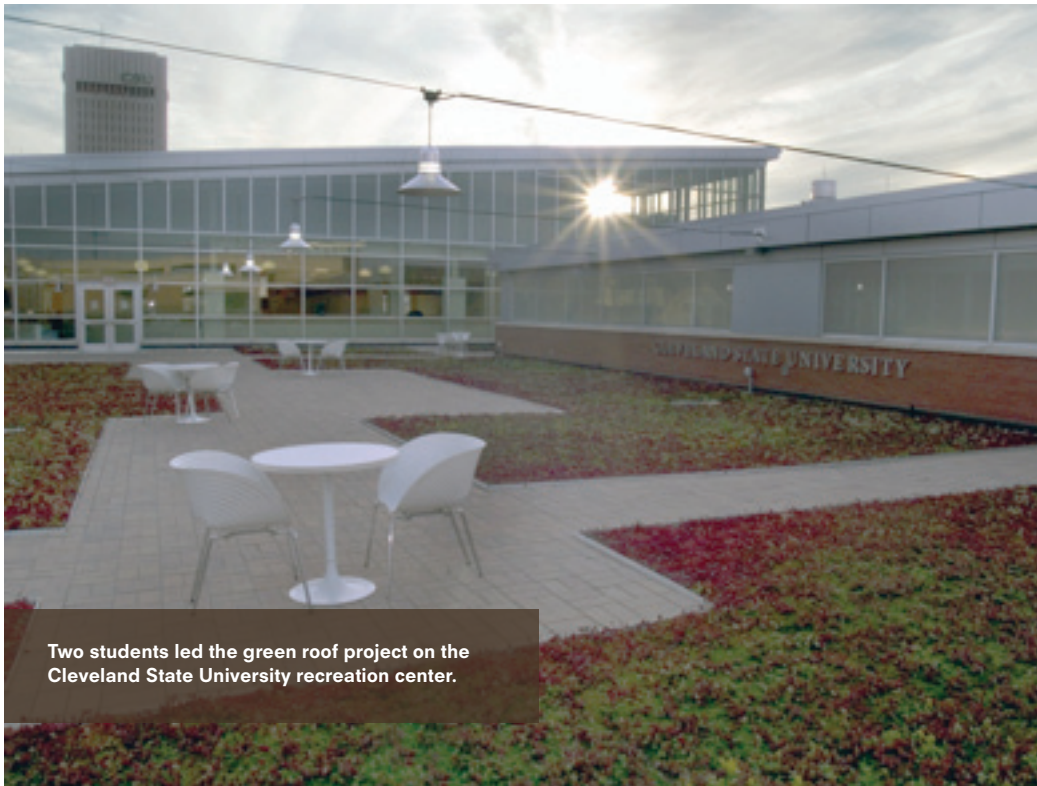


Baldwin-Wallace's Earthtub composts food waste from the school cafeteria.



Cleveland Botanical Garden Green Corps youth composts food waste from the Garden and Case's cafeterias.

▲ 8. Carbon offsets



Two students led the green roof project on the Cleveland State University recreation center.

Green roofs

A green roof is partially or completely covered with vegetation and soil. They provide an aesthetically pleasing green space while adding insulation to a building. Food can also be grown on green roofs for use in campus dining halls! Click here for more information on green roof contractors.

Tree planting

While a mature tree absorbs 48 pounds of carbon dioxide per year, the temporary nature of trees has made them a controversial pick for offsetting carbon. So while you might not want to use them on campus for official carbon offsetting purposes, trees are still nice to have around since they provide shade and habitat for wildlife.

Low-income communities

A great option for carbon offsetting is to fund energy efficiency projects in local low-income communities. With rising energy bills, new insulation or CFL lightbulbs can make a big difference for local families. ▲

More information

For more details, see:
<http://gcbl.org/projects/climate-change-transitions-for-northeast-ohio>

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