



UNCG ECO REPS MANUAL

UNCG
SUSTAINABILITY

Prepared by UNCG Office of Sustainability

ABOUT

The Eco-Reps program at UNCG is a peer-to-peer (students teaching students) community outreach and education initiative that supports the Office of Sustainability in the dissemination of sustainability concepts and the promotion of a sustainability ethic throughout the campus community.

As a team of eco-warriors, UNCG Eco-Reps are responsible for teaching other UNCG students about recycling, greenhouse gases, global warming, environmental justice, and so much more. You will learn about current environmental issues and gain experience in program management, community building, and environmental activism all while you work together to model a sustainable lifestyle for your fellow students, connect them to sustainability related programs and clubs on campus, and teach them about eco-friendly actions they can take to reduce their impact on the environment.

Eco-Reps participate in an annual one-day summer retreat at Piney Lake with staff from the Office of Sustainability who will provide all the tools you'll need to further UNCG's sustainability mission and to teach your peers about the best practices the university implements to help us achieve our goal of becoming a zero waste campus and carbon neutral by 2050.

During the fall and spring semesters, Eco-Reps meet weekly with the Office of Sustainability for 1-1.5 hours and provide 2-4 hours of outreach efforts each week. Meetings will be used to review previous week's events, organize upcoming outreach events and identify new opportunities, review data collection, answer frequently asked questions, conduct needed administrative tasks, and address challenges.

Eco-Reps will be responsible for tracking the impact of their outreach efforts (hours worked, number of outreach events, and number of students reached).

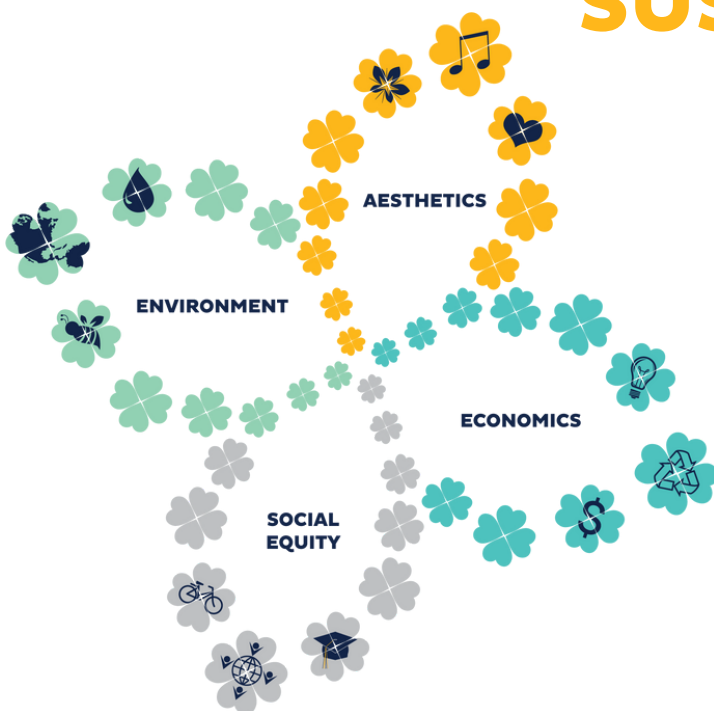
SUSTAINABILITY @UNCG

According to the Environmental Protection Agency, sustainability is based on a simple principle: Everything we need for our survival and well-being depends either directly or indirectly on our natural environment. Thus, to act sustainably is to create and maintain conditions under which humans and nature can coexist and fulfill the social and economic requirements of present and future generations.

At UNCG, we define sustainability as the enduring interconnectedness of social equity, the environment, economy, and aesthetics. We believe this interconnectedness provides a foundation from which to discover, implement, and enrich sustainable principles and practices with the intent to instill values that promote justice, invent innovative approaches and solutions to environmental and economic challenges, and instill civility and grace into our communities.

OFFICE OF SUSTAINABILITY

The mission of UNCG's Office of Sustainability is to encourage and support the development and implementation of sustainable practices in administrative units of the university and create a meaningful link between academics and operations that supports use of the campus as a teaching laboratory.



AASHE

In 2007, UNCG became a member of the Association for the Advancement of Sustainability in Higher Education (AASHE) to further its campus efforts toward building a healthy and just world. UNCG's membership into AASHE enhances the University's commitment to incorporating sustainability into its way of doing business and its academic programming. Students, staff, faculty and alumni are entitled to a free membership with AASHE - just use your UNCG email address to create an account. AASHE



is a great resource concerning sustainability news at universities across the nation. Sign up for electronic newsletters and get access to an extensive collection of reports detailing the progress of green projects happening on campus communities much like ours – a great resource for research papers!

SUSTAINABILITY COUNCIL

The Sustainability Council was formed in 2010 and consists of UNCG faculty, staff, and students. The Council works to identify and recommend responsible and sustainable practices in all aspects of institutional culture including operational activities, academic programs, and community relationships.

CLIMATE ACTION PLAN

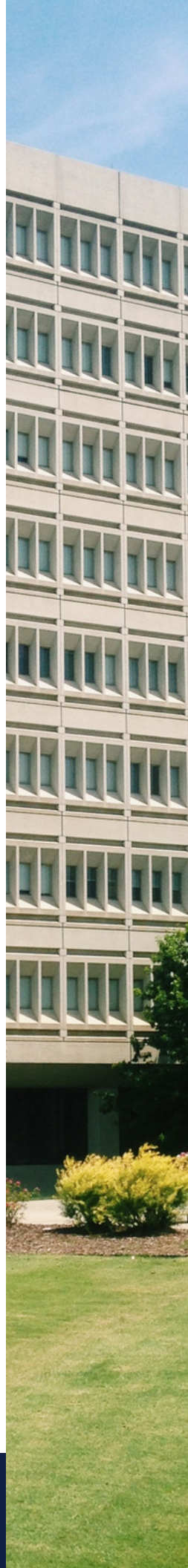
Created by a team of more than 50 students, faculty, and staff, and signed in 2013 by former UNCG Chancellor Linda Brady, the Climate Action Plan (CAP) is the guiding document in the University's effort to reduce our carbon footprint and become climate neutral by 2050.

ACADEMICS

From anthropology to tourism, there are more than 100 courses at UNCG that focus on sustainability in undergraduate and graduate programs. If you really want to embed yourself in sustainable studies you can enroll in the Environment & Sustainability Program or apply to be a resident of Strong College, located in Guilford Hall, which focuses on sustainability through hands-on research and fieldwork through courses designed to generate a new perspective on both local and global settings.

SUSTAINABILITY FACULTY FELLOWS

The program, which consists of one Academic Sustainability Coordinator and two Faculty Fellows annually, promotes collaboration among scholarly disciplines in order to encourage the integration of sustainability in research and teaching across the campus. Fellows work on clearly specified projects that may include but are not limited to co- or extra-curricular campus programs, curriculum activities (including team-taught and individual courses), and innovative research projects or collaborations.



FILM & DISCUSSION SERIES

As the longest running program of its kind in the region, the UNCG Sustainability Film & Discussion Series continues to lend voice to environmental, sustainability, and climate issues affecting our community and the world. Join us each month during the academic year for a new documentary film and discussion with guest lecturers.



ANIMAL ETHICS

UNCG
SUSTAINABILITY
LECTURE & DIALOGUE SERIES

WEDNESDAY, MARCH 10
12 p.m. - 1 p.m.

Registration Required

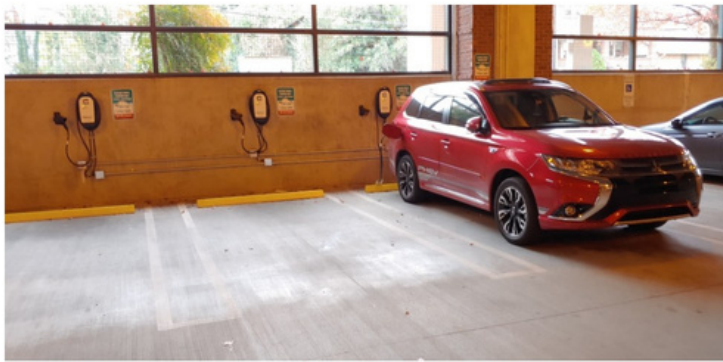
LECTURE & DIALOGUE SERIES

The Sustainability Lecture and Dialogue Series features UNCG researchers addressing issues integral to transforming our knowledge of and connections to the environment in order for us to build vibrant and thriving communities. Previous topics covered include: animal ethics, Black American environmental history, climate justice, and urban planning, just to name a few. Recordings can be found on the UNCG Sustainability YouTube Page.



BIKE FRIENDLY UNIVERSITY

Bikes are plentiful at UNCG, maybe that's because we were the first campus in North Carolina to be recognized as a Bicycle Friendly University! Bikes are fun, inexpensive, and healthy for you and the environment. Visit POCAM's website for information about registering your bike and locations of our bike repair stations. www.parking.uncg.edu



**Best Workplace
for Commuters!**



EV CHARGING STATIONS

With financial support from the UNCG Green Fund, five Level 1 and four Level 2 electric vehicle charging stations have been installed in the Oakland parking deck and four Level 2 stations in the McIver deck. Students and employees who want to regularly use the EV stations must register for a parking pass with POCAM and then can charge their cars for free! The stations are also available to the public, but regular parking and charging fees apply. Questions? E-mail: parking@uncg.edu

STUDENT CLUBS

Student groups play a vital role in the promotion of sustainability on campus and in the community. From community gardening, fighting food waste, eating vegan, to adopting streams and streets, there's plenty of opportunities to get involved and provide service to our campus and city communities. See a list of all the clubs on campus and the events they're sponsoring via Spartan Connect: www.cap.uncg.edu/student-groups



- **Defend Our Future**
- **Food Recovery Network**
- **Garden Club**
- **UNCG Beekeepers**
- **UNCGreen**
- **Sustainable Tourism & Hospitality**

LEED BUILDINGS

Leadership in Energy and Environmental Design (LEED) is a rating system for the design, construction and operation of high-performance buildings and developments, created by the US Green Building Council. In 2011, the University pledged to design all new buildings to LEED Silver standards. As of 2019, UNCG has 20 LEED certified buildings on campus. 25% of our gross square footage is LEED certified.



- **School of Education**
- **Kaplan Center**
- **Moran Commons**
- **Quad Resident Halls**
- **Jefferson Suites**
- **Spartan Village**
- **Nursing Building**
- **Police Station**
- **Nanoscience Building**

ENERGY CONSERVATION

Over the last ten years, UNCG's amount of building space has increased by 21% and its student population has grown by 18%, approximately. That's great news, but it also means we're using about 17% more electricity overall than we used to. But thanks to our LEED Certified buildings, innovative technologies, and your conscientiousness, it now takes 17% less energy to heat, cool, and light an area per square foot than it used to. In short, we've grown size, but become more efficient. But remember, that electricity is partly generated by burning fossil fuels. So turn off your lights and unplug your electronics when not in use to help reduce UNCG's carbon emissions and fight climate change!

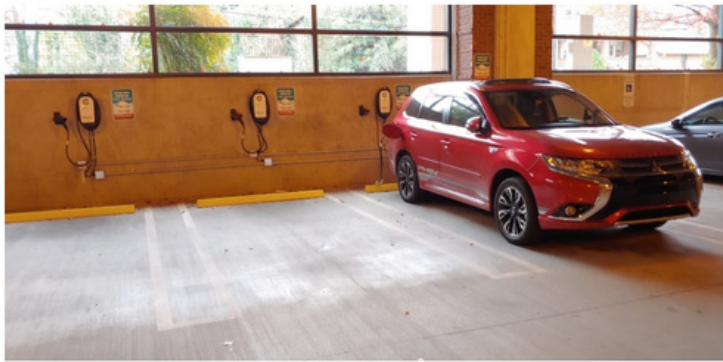


WATER CONSERVATION

Water is the stuff of life. It doesn't get much more important than that, and we shouldn't take the important things in life for granted. Only 3% of the water on Earth is fresh and most of that is growing ever more polluted and unusable. Don't let faucets run and take shorter showers to help conserve this precious resource. Did you know, thanks to your help, water consumption at UNCG has decreased by 74% since 2003?

FOOD

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PEABODY PARK

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TREE CAMPUS USA

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- **Defend Our Future**
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GLOSSARY

- **Aesthetics** - a set of principles concerned with the nature and appreciation of beauty, in the context of sustainability at UNCG, aesthetics provides a unifying and balancing concept for the other aspects of sustainability: social equity, economics, and the environment.
- **Active Programming** – Includes in programs that require direct interaction with residents. An example at UNCG is the UNCG Sustainability Film & Discussion Series.
- **Biodegradable** – materials that break down quickly and naturally without causing harm to the environment, leaves nothing behind, and saves landfill space.
- **British thermal unit/BTU** -- a unit of heat, that is defined as the amount of heat required to raise the temperature of one pound of water by one Fahrenheit degree.
- **Carbon Neutrality** – pertaining to or having achieved the state in which the net amount of carbon dioxide or other carbon compounds emitted into the atmosphere is reduced to zero because it is balanced by actions to reduce or offset these emissions.
- **Circular Economy** - a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products ideally perpetually. The goal of these activities is to reduce the carbon footprint by reducing the need to create new raw materials.
- **CFL Lightbulb** – Compact fluorescent lightbulbs are energy saving bulbs that use about 25 – 80 percent less energy than traditional incandescent and can last 3 – 25 times as long; however, there are some issues with the disposal of CFL bulbs as they often contain mercury.

GLOSSARY

- **Climate Action Plan** – is any policy that targets the reduction of resources and energy within a discrete time frame. the UNCG Climate Plan is called “Getting to Zero” with the goal of becoming climate neutral/zero carbon footprint by 2050:
<https://sustainability.uncg.edu/wp-content/uploads/2019/08/UNCG-Climate-Action-Plan.pdf>
- **Climate Change** – The phenomenon occurring right now where the Earth’s average temperature is rising largely caused by human consumption of fossil fuels and causing major changes to weather patterns and sea levels around the world.
- **Composting** – collecting organic waste such as yard clipping and food waste to facilitate the controlled breakdown of these materials for use as fertilizer or soil. The UNCG food services have developed a
- **Economy** – is collective human activity that involves the production, use, and management of all resources, including the production, distribution and trade, as well as consumption of goods and services. At UNCG, economy is one of four interconnective concepts that contribute to the idea of sustainability along with social equity, aesthetics, and the environment.
- **Energy Star** – rating program started by the US Environmental Protection Agency to designate energy efficient appliances and electronics.
- **Environment** – the collective ecological system in which all living things exist; the environment is composed and influenced by specific physical, chemical, and biotic factors including the climate and geology. At UNCG, the environment is one of four interconnective concepts that contribute to the idea of sustainability along with social equity, aesthetics, and the economy.

GLOSSARY

- **EUI: Energy Use Intensity** – a calculation that enables the comparison of the energy consumption by buildings and structures relative to their size; the EUI considers the amount of energy a building uses as a function of area of floor space and is measured in kilo BTU per unit area.
- **E-Waste** – any electronic or electrical equipment (i.e. computers, smart phones, calculators) that needs to be disposed of separately from landfill trash to avoid hazardous metal and chemicals in the product from polluting the air or water.
- **Executive Order 80 (North Carolina)** – on October 29, 2018, Governor Roy Cooper issued Executive Order No. 80 which North Carolina’s commitment to fight climate change and lead North Carolina’s transition to a clean energy economy. In this order the following goals to be reached by 2025 have been set: reduction of greenhouse gases by 40% below 2005 levels, increase of state owned ZEVs to at 80,000 vehicles; and reduce energy consumption per square foot 40% below 2005 levels.
- **Food Deserts** – a significant problem in any area, but often in urban setting, that demonstrates the challenge of buying affordable or good-quality fresh food. Food Deserts impact sustainability by stressing all aspects, environmental, economic, equity and aesthetic. At UNCG several green fund projects including Local Food Storm, the Mobile Oasis Farmers Market and the Food recovery network have addressed different aspects of this problem.
- **Footprint (ecological or carbon)** – refers to the amount of natural resources an individual uses or how much carbon emissions they are contributing to the atmosphere.

GLOSSARY

- **Gray water** – also known as sullage, this is all non-potable and wastewater from non-sewage, i.e. non-fecal contaminated sources and includes washing machine, sinks, tubs and showers. UNCG uses non-potable water from wells is used for irrigating for a recreation facility (Piney Lake), and on-campus athletic fields as well as the golf course.
- **Greenhouse Gas Emissions** – are gases in the earth’s atmosphere, including carbon dioxide, methane, water vapor, ozone, and nitrous oxide that absorb heat and emit it back to the Earth’s surface. Increase of atmospheric greenhouse gases is associated with global climate change.
- **Heating, Ventilation, and Air Conditioning (HVAC)** – a building’s system of heating and cooling infrastructure
- **Kilowatt Hour (kWh)** – one kilowatt of power delivered for one hour; common unit of energy used for billing consumers by utility companies.
- **Leachate** – liquid produced by landfills from decomposing waste and may be harmful to the environment.
- **LED lighting** – light emitting diode form of light that uses 75 percent less energy than incandescent light bulbs, emits little heat, and is durable and will not break like a light bulb. Several Green Fund projects have involved refitting conventional sodium lamps with LED lighting to save energy and reduce UNCG’s carbon footprint.
- **Lifecycle Assessment (LCA)** – process of determining the cradle-to-grave footprint of a product considering energy and materials used through extraction, production, transportation, use, and disposal.
- **Low Flow plumbing** – faucets, toilets, or shower heads designed to use less water helping conserve energy, water, and money.

GLOSSARY

- **Low Emission Vehicles** – is a motor vehicle that emits relatively low levels of motor vehicle emission.
- **Million British Thermal Units/mm BTU** – The most common unit of energy when referencing natural gas systems in the US.
- **Metric Tons of CO2 Equivalent/mtCO2e** – Not all GHG emissions are CO2, but for ease of calculation, other GHGs are converted to their CO2 equivalents
- **Passive Programming** – Does not require active participation in order to function. Examples include bulletin boards, tri folds, poster, or newsletter.
- **Piney Lake** – a recreational facility that is part of UNC Greensboro since 1956, encompasses 40+ acres of beautiful park-like property situated eight miles south of campus near the community of Pleasant Garden. <https://recwell.uncg.edu/facilities/piney-lake/>
- **Post-Consumer Recycled Content** – Once a material or product has served its intended use and has been diverted from the waste stream and used to make a new product.
- **Rainwater Harvesting** – collecting rainwater in containers such as rain barrels to conserve using potable water for uses such as garden and lawn watering or car-washing. UNCG has invested in two 2500 gallon rainwater cistern systems using Green Fund program awards to irrigate annual plants in the summer and create brine mixtures in the winter.
- **Renewable Energy Certificates (RECS)** – certificates that represent proof that a certain amount of energy has been produced by renewable energy and can be sold or traded by the owner.

GLOSSARY

- **Return on Investment (ROI)** – a performance measure used to evaluate the efficiency of an investment. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or ratio.
- **Reusables** – items that can be used multiple times without being disposed of such as plastic or glass bowls, cups, silverware, etc. Other examples are cloth/nylon shopping bags instead of paper or plastic, silverware instead of plastic ware, and metal or plastic bottles instead of disposable water bottles.
- **Smart Strips** – a power strip that uses auto-switching technology to automatically shut down devices that are not in use, saving you money, and reducing your overall energy usage.
- **Social equity**– is the concept of fair and just social policies and treatments for all individuals and groups within a society, as measured by the access to resources, treatment by the law, opportunities for personal activity, and social privileges. Within Sustainability at UNCG, social justice is interconnected with other concepts such as aesthetics, the environment, and economy.
- **SRI / Socially Responsible Investing** – also known as sustainable and responsible investing, is any investment strategy that considers both financial return and social/environmental good to bring about social change regarded as positive by promoting environmental stewardship, consumer protection, human rights, and racial or gender diversity. In 2019, UNCG committed to considering socially responsible investing for its finances.
- **TDM/Transportation Demand Management** – strategies and policies to reduce travel demand and/or to redistribute that demand.

GLOSSARY

- **Vampire Energy** – electric power consumed by electronic devices even when they are turned off or in shutdown mode.
- **Xeriscape** - Landscaping to reduce or eliminate the need for irrigation.
- **ZEV/Zero Emission Vehicles** – there are three vehicle designs that are considered "zero emission": (1) Plug-in hybrid vehicles is a vehicle with conventional gasoline-powered engine with a battery that can be recharged from the electrical grid; (2) Battery electric vehicles have engines that are completely electricity and are recharged from the electricity grid; and (3) Hydrogen fuel cell vehicles run on electricity produced from a fuel cell using hydrogen gas. The State of North Carolina has a ZEV plan that is associated with Executive Order 80: <https://www.ncdot.gov/initiatives-policies/environmental/climate-change/Documents/nc-zev-plan.pdf>
- **Zero Waste Event** – an event which has been planned and carried out to create no additional waste.

FAQ

Q: How do we know climate change is human caused?

A: All elements have variations of themselves. The differences are caused by the number of neutrons. We use the number of neutrons in a carbon molecule to determine its source. Carbon emitted by our vehicles, by our power plants, and from natural sources, are all different isotopes of carbon.

Q: Are hurricanes more intense or are there more hurricanes because of climate change?

A: "There's a trend towards more extreme more intense hurricanes and scientists have estimated that for each degree Celsius warming of ocean surface temperatures we see an overall increase of about seven percent in the maximum wind speeds of those storms. The destructive potential of a hurricane goes as the third power of the wind speed, which translates to a 23% increase in destructive potential."

Q: Why don't we use more nuclear energy?

A: Actually, 54% of North Carolina's energy is generated using nuclear power. It's definitely cleaner than fossil fuels like coal and natural gas, but it's expensive and takes a long time to build. And most projects go over budget. I'm not necessarily opposed to it, but solar and wind are more pragmatic right now.

FAQ

Q: Why don't we have more solar on campus?

A: Our new Campus Master Plan, which was just updated in 2020 calls for more solar on new construction, which is always easier than retrofitting old buildings. Keep in mind that not every building on campus, particularly the older ones, are great candidates for solar. Many are old, which means their roofs weren't designed to hold the weight of solar panels. Panels also need to face South in order to function at a high capacity. Both of which limit the available square footage where we could put panels.

For some perspective, we have solar panels on the new Nursing Instructional Building, which has approximately 177,000 gross square feet of space inside. The panels on that roof only generate about 3% of the building's total annual energy needs. So no matter how much solar we put on roofs, we'll never be able to generate enough electricity to power the entire campus.

Almost 40% of our carbon footprint comes from the energy we purchase from Duke, so to a certain extent we're dependent on them and they have to answer to the North Carolina General Assembly, so that's why it's important to vote for candidates who support renewable energy, if this is something that's important to you.

FAQ

Q: **People will never get their act together enough to create change.**

A: If everyone was a cynic we'd never accomplish anything.

Q: **Why should I recycle? It all goes to the landfill anyway.**

A: It goes to the landfill because of our own negligence. If more people took responsibility to learn how to recycle properly, we would divert more waste from the landfill. 5% is better than 0%.

Q: **Is this recyclable?**

A: Recycling is complicated and what is recyclable changes from city to city because recycling capabilities can differ. Be sure to refer to the UNCG recycling guide and download the "GSO Collects App" and use their "Waste Wizard." You just have to type in an item and it'll tell you if it can be recycled or not. There are some differences between what we accept on campus and what the City collects, but you can't really go wrong with it. Just remember, if in doubt, throw it out. It's better to not contaminate an entire delivery of recycling.

Q: **Why did the City of Greensboro stop recycling glass?**

A: The City still recycles glass, you just have to take it to a drop-off location, which you can find on the GSO Collects app. The City and UNCG get charged per ton for recycling and so glass is the most expensive material. It was strictly a financial decision for the City. We still collect glass because it's not a significant percentage of our overall recycling. But it still costs us money, so if you live off of campus, please use the City's drop-off locations. If you live on campus or buy a glass container, like a Snapple in one of our stores, you can recycle glass here.

FAQ

Q: **Why don't we have composting on campus?**

A: Actually, UNCG Dining Services composts food waste in Fountain View. They partner with Gallins Family Farm outside of Winston Salem and compost an average of 150 tons a year. Our Grounds crew also composts about 50 tons of landscaping waste a year.

Q: **Why don't we expand compost in the dorms?**

A: We did a compost pilot in Moore-Strong using a grant from the Green Fund, but ultimately it wasn't successful. Students frequently left their bins unattended in their rooms, particularly over breaks and we received numerous complaints. However, we are trying to expand to more dining locations and at catered events. Remember, programs like this cost money, both in resources and labor.