



Missouri State University
Sustainability

Recycling at Missouri State University

Sustainability
Recycling 101

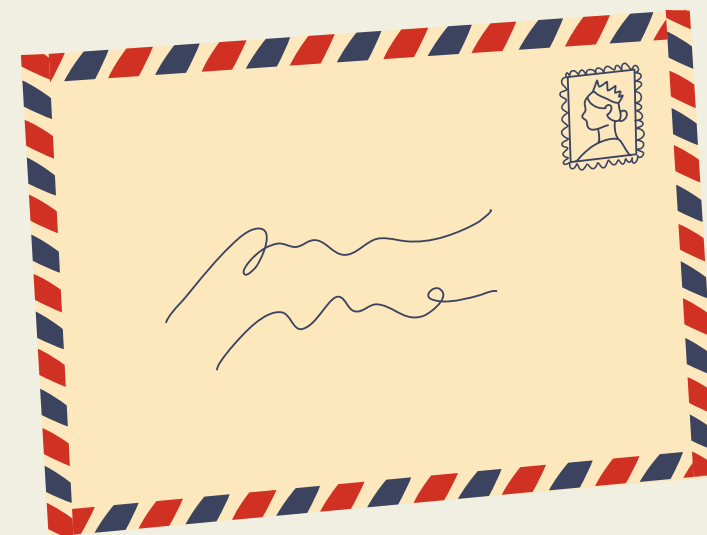
Created By
Leo Carpenter





What can be recycled in the paper bins?

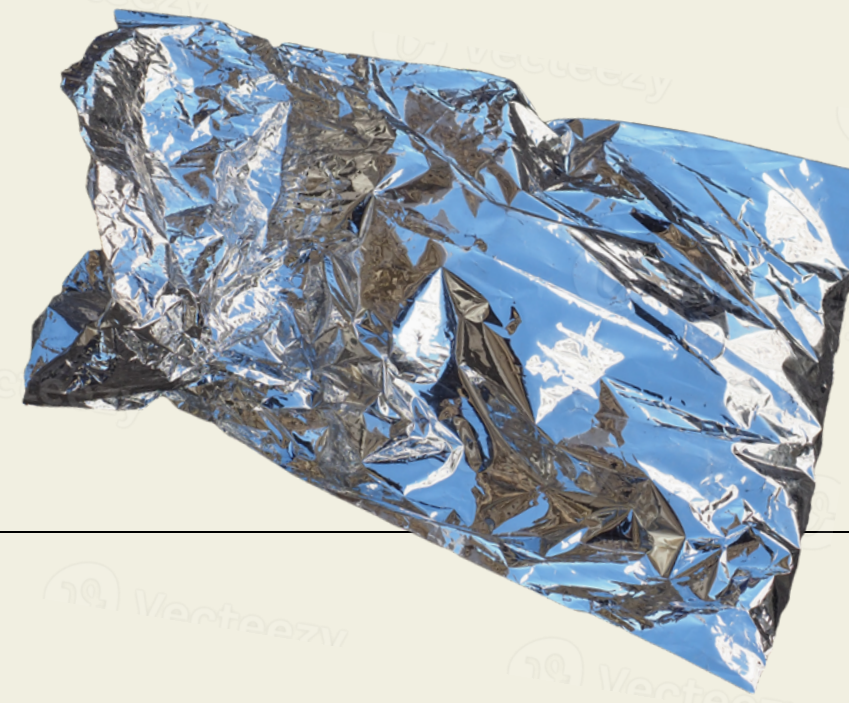
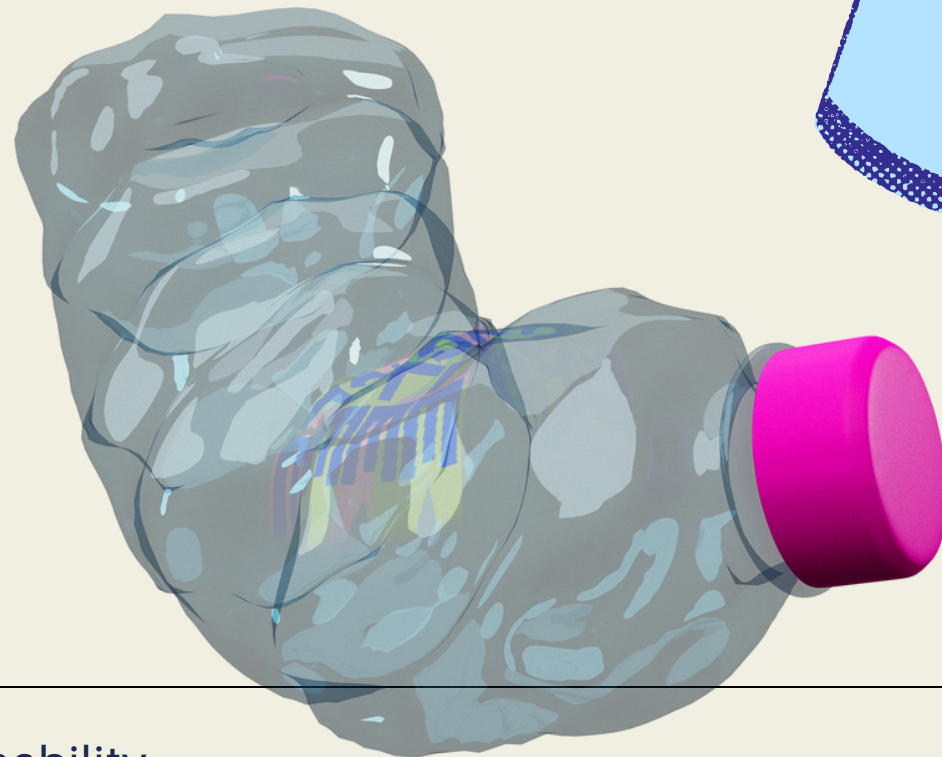
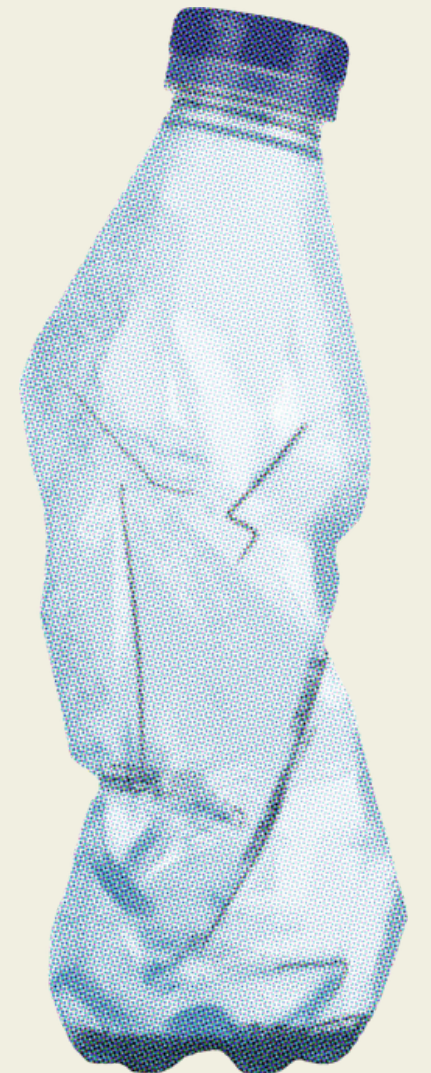
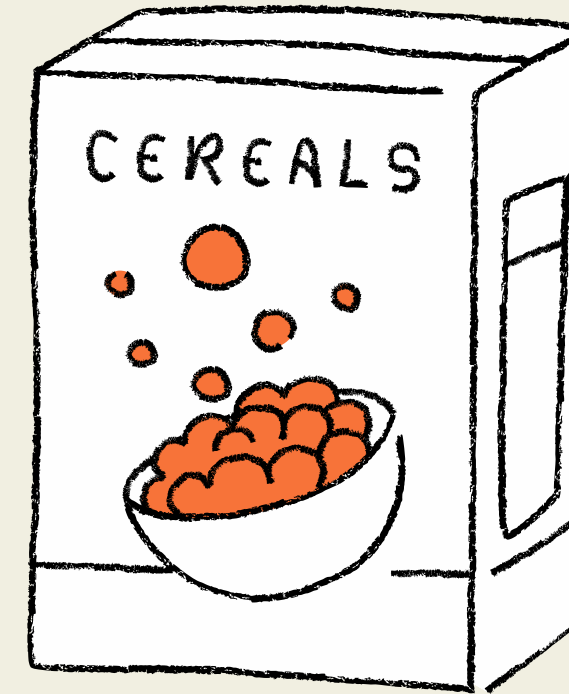
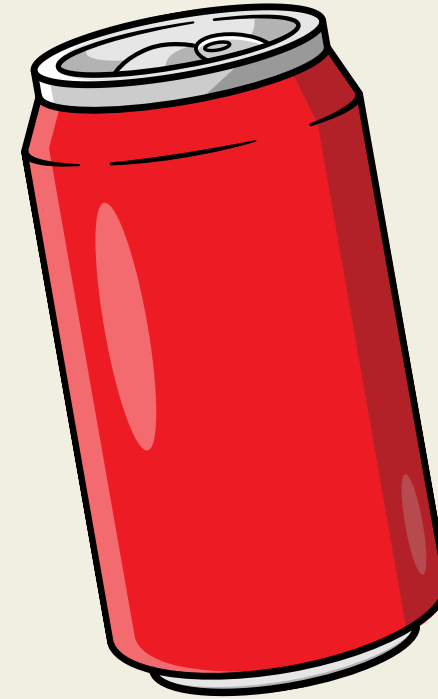
- Opened mail & greeting cards
- White or pastel office paper
- File folders and shredded paper
- Magazines, brochures & catalogs
- Newspapers & inserts (NO BAGS)
- Phone books, paper/hard-back books





What can be recycled in the commingled bins?

- #1-7 plastics
- Aluminum cans (don't crush/flatten)
- Clean, balled aluminum foil/pie pans
- Loose metal jar lids/steel bottle caps
- Paper milk/juice cartons (no foil pouches, do not flatten)
- Empty aerosol cans (no caps)
- Paperboard (cereal boxes)

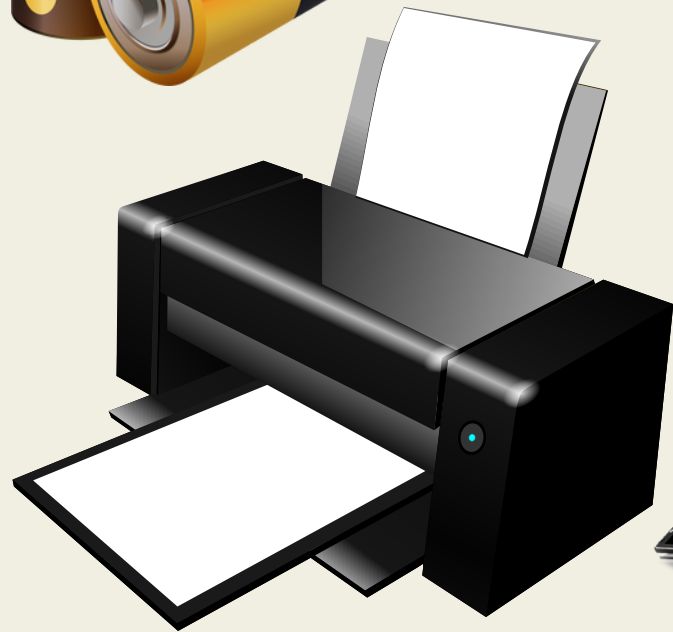




What else can be recycled?

Use a recycling pick-up request to recycle these items on campus!

- Cardboard
- E-waste
- Batteries
- Printer/toner cartridges
- Scrap metal
- Furniture/equipment



Recycling Submittal Form

Filling out this form will tell us where your recyclables are located, what kind of recyclables and the amount you have and how to contact you if we have any questions.

PLEASE NOTE: this does *NOT* include paper, plastic or aluminum. There are bins available in every building where these items can be recycled. This link is for items such as:

- Batteries - All kinds including rechargeable, lead acid, alkaline, etc.
- Electronic waste (E-Waste) - broken televisions, computer parts, microwaves, overhead light ballasts, etc.
- Toner cartridges - from desktop printers to copy machines

At this time, we cannot accept Styrofoam.

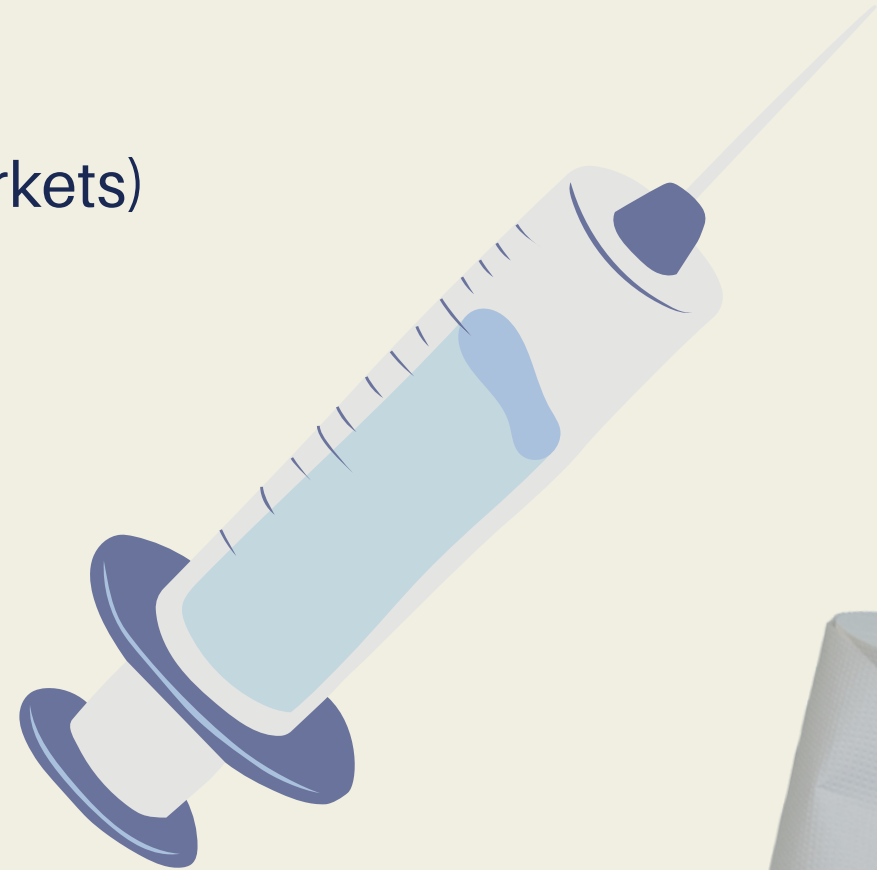
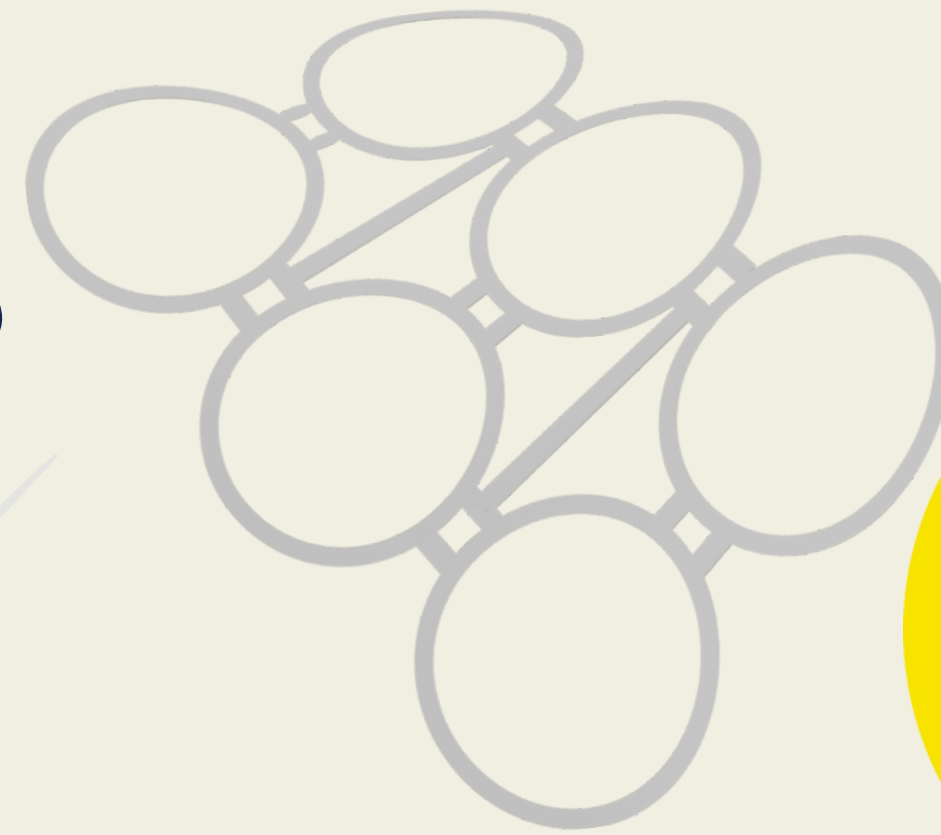
Use the *TAB* button to navigate through the form. Pressing ENTER will submit your information whether or not you have completed the form.

<https://www.missouristate.edu/Sustainability/RecyclingSubmittalForm.htm>



Missouri State University: What cannot be recycled?

- Plastic lids and caps
- Plastic bags (recyclable at select supermarkets)
- Scrap metal (dangerous!)
- Plastic 6-pack holders
- Foam packing materials
- Needles or syringes
- Plastic microwave trays
- Frozen food, ice cream containers
- Hazardous/bio-hazardous waste
- Plastics other than those listed
- Tissues, paper towels, napkins
- Waxed paper or waxed cardboard
- Styrofoam®
- Containers that have not been rinsed or cleaned of food





Where can I recycle?

- all of the academic building
- 20 outdoor recycling containers for use between buildings and at the shuttle stops

However, recycling bins across campus come in different shapes, sizes and colors!

To simplify things, just remember: Paper goes in the paper bin, all other recyclables in the commingled bin, and all waste in the trash bin.





Composting: PSU

What can be composted?

- Food waste
- Paper Towels
- Some packaging





Composting: Dining Halls



The food waste in both the dining centers and in the Plaster Student Union is **composted**. Composting food **reduces methane**, which is 21 times more potent than CO₂. It also means that we operate the garbage disposals only about 5% of what we did in the past. This alone allows us to **save over 3,000,000 gallons of water per year** in the two dining centers.

Environmental Benefits

Conserve Natural Resources:

- Recycling reduces the need to extract resources such as timber, water, and minerals for new products.
- 94% of the natural resources used by Americans are non-renewable.
- Using scrap steel instead of virgin ore to make new steel takes 40% less water and creates 97% less mining waste.

Climate Change:

- The improper waste disposal emits gases like carbon dioxide, nitrogen, and sulfur, which contribute to global warming.
- According to the most recent EPA data, the recycling and composting of municipal solid waste (MSW or trash) saved over 193 million metric tons of carbon dioxide equivalent in 2018.

Energy Savings:

- Recycling ten plastic bottles saves enough energy to power a laptop for more than 25 hours.
- It takes 95% less energy to recycle aluminum than it does to make it from raw materials.
- Recycled steel saves 60% of production energy, recycled newspaper 40%, recycled plastics 70%, and glass 40%.

Waste and Pollution Reduction:

- Recycling diverts waste away from landfills and incinerators, reducing the harmful effects of pollution and emissions.



Economic Benefits

Recycling Economic Information (REI) Study in 2020 found that in a single year, recycling and reuse activities in the United States accounted for:

- **681,000 jobs**
- **\$37.8 billion in wages**
- **\$5.5 billion in tax revenues**

Other Benefits Include

- **Reducing** the need to create **new landfill space**
- Increasing the **investment in eco-friendly infrastructure**
- **Improving resource allocation** to recycling programs and facilities
- **Reducing waste** by converting garbage and recycling vehicles to electric
- **Growing the circular economy** involved in all reduce, reuse, and repurpose activities
- **Saving money** by lowering how often people need to buy brand-new items

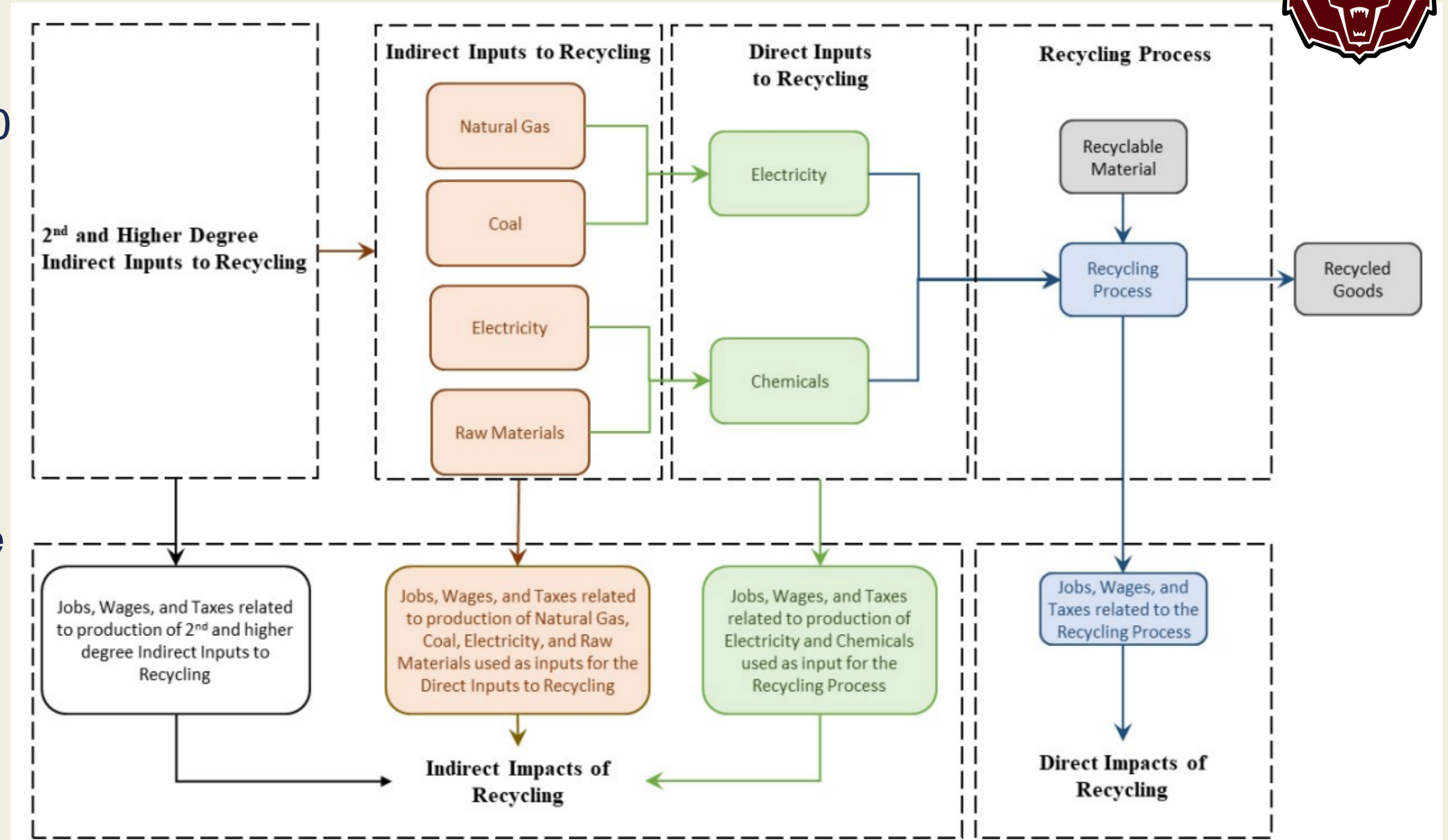
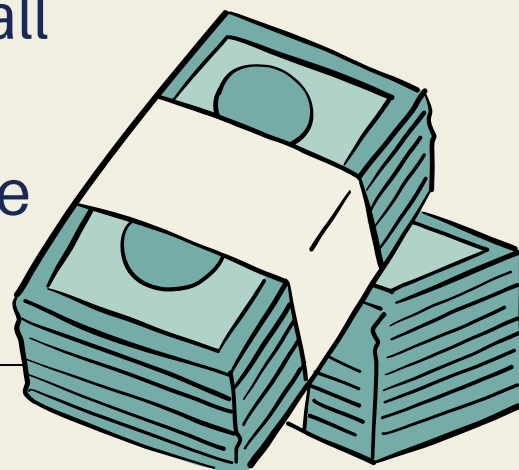


Figure 1. Scope of Total (Direct and Indirect) Impacts of Recycling Approach





Community Benefits

Environmental Justice: Across the country, waste management facilities are concentrated in underserved communities, and they can have negative impacts on human health, property values, aesthetic and recreation values, and land productivity. Recycling provides these areas with a healthier and more sustainable alternative.

By investing time, energy, and resources into recycling, governments and communities around the world can deliver ample benefits we can all appreciate:

- Improved **public health**
- Increases in our shared **purpose** of caring for the planet
- Improved **communal** spirit
- Growth in **public trust**
- Increasing the number of people and businesses **committed to eco-friendly** practices
- Enhancing a people's sense of purpose by contributing to improving community and world



Ways to Reduce Waste in Your Life



- **Bring Your Own Bag**
 - Say no to single-use paper and plastic bags and bring your own high-quality reusable bag. Each reusable bag can eliminate hundreds (if not thousands) of single-use plastic or paper bags!
- **Carry a Reusable Water Bottle**
 - Carrying your own bottle cuts waste and can save you money.
- **Pack a Waste-Free Lunch**
 - Do away with throw-away lunch packaging. Each child bringing a brown bag lunch to school daily generates 67 pounds of waste each year.
- **Bring Your Own Cup**
 - The average American once used 500 paper cups a year. Replacing single-use paper, plastic, or Styrofoam cups with a reusable cup or mug can have a huge impact. Try keeping a cup in your bag, office, or car so you always have one around. Most coffee shops offer a discount for bringing your own cup!
- **Slow Down and Dine In**
 - A big reason we have a food packaging problem, to begin with is that people want to eat on the go – whether it's a drive-through or grab-n-go. Take a breath, slow down and dine in. Get your coffee “for here,” or enjoy a home-cooked meal with friends and family and say goodbye to single-use packaging.
- **Consider Reusable Straws**
 - Plastic straws are consistently one of the most littered plastic items, which means they end up in our waterways and are harmful to fish and wildlife. If you need a straw, consider using a reusable straw.
- **Avoid Heavily Packaged Foods**
 - Heavily packaged foods are bad for the environment, and they’re usually unhealthy for you too. Buy foods that aren’t heavily packaged, like fresh produce and bulk items.
- **Bring Your Own Container and Utensils**
 - Need to grab lunch on the go? Bring your own container and utensils to cut down on “the other leftovers” from your take-out meal. You can also bring your own container for leftovers when you eat at a restaurant - no more single-use “doggie bags”!
- **Use No Bag or a Fabric Bag to Carry Produce and Other Grocery Items**
 - You’ve worked so hard to bring reusable bags to the store; why fill them up with plastic produce bags? Bring your own fabric bags for produce and bulk items. Many companies make reusable produce bags from hemp, organic cotton, and even recycled plastic



Opportunities to get Involved: Sustainability on Campus

- **MSU Campus Garden**
 - Managed by students and provides all-natural produce to students, faculty, staff, and community members.
- **Sustainability Major**
 - Students complete a core set of courses that create a strong foundation in the principles and philosophy of sustainability. Students may select a traditional geography focus, a focus on Sustainable Development, or a focus on Sustainable Watershed management.
- **Sustainability Minor**
 - An interdisciplinary program that allows students to expand their knowledge on sustainability topics and compete in this growing field.
- **ZipGrow Towers Program** (School of Agriculture and Chartwell)
 - The School of Agriculture and Chartwell's partnered on an internship program that gives students the opportunity to gain real-world knowledge and experience with this innovative sustainable agriculture technology.
- **Bears for Sustainability**
 - This LLC houses 40 students and allows them to engage in sustainability-related activities throughout the year
- **Student Government Association: Sustainability Commission**
 - Implement lasting changes at Missouri State by voting on the proposals submitted to the Student Sustainability Fund
- **Student Sustainability Fund**
 - Provides nearly \$150,000 dedicated to sustainability projects on campus
- **Students for a Sustainable Future**
 - Educate students, faculty, staff, and the community about the reality and effects of global climate change.
- **Bear Pantry**
 - The Bear Pantry serves members of the MSU community who face food insecurity.



Opportunities to get Involved: Sustainability in Springfield

- **Community Partnership of the Ozarks: Environmental Sustainability Collaborative**
- **Springfield Community Gardens**
- **Wonders of Wildlife**
- **City of Springfield: Environmental Services**
- **Watershed Committee of the Ozarks**
- **James River Basin Partnership**
- **Clean Green Springfield**
- **MoDOT**
 - **Roofs to Roads**
- **Ozarks Food Harvest**

Educational Resources



Videos

- https://www.ted.com/talks/tierney_thy_s_and_christian_sardet_meet_the_microbes_that_could_eat_your_trash
- https://www.ted.com/talks/emma_bryce_what_really_happens_to_the_plastic_you_throw_away
- https://www.ted.com/talks/patricia_villarrubia_gomez_the_problem_with_plastics_and_how_they_re_changing_the_environment
- https://www.ted.com/talks/alejandro_duran_how_i_use_art_to_tackle_plastic_pollution_in_our_oceans
- https://www.ted.com/talks/gay_gordon_byrne_you_deserve_the_right_to_repair_your_stuff
- https://www.ted.com/talks/sarah_dudas_microplastics_are_everywhere_but_we_can_do_something_about_them
- <https://youtu.be/b7GMpJx2jDQ>

Books

- *Cradle to Cradle: Remaking the Way We Make Things*
 - William McDonough & Michael Braungart
- *The Story of Stuff*
 - Annie Leonard
- *High Tech Trash*
 - Elizabeth Grossman
- *Zero Waste: Simple Life Hacks to Drastically Reduce Your Trash*
 - Shia Su
- *No. More. Plastic.: What You Can DO to Make a Difference*
 - Martin Dorey
- *Trash Talk: An Encyclopedia of Garbage and Recycling around the World*
 - Robert W. Collin
- *Nature Recycles: How About You?*
 - Michelle Lord

Articles

- <https://www.recyclingtoday.com/news/sustainable-fiber-looks-beyond-recycling-sustainability-circular-economy/>
- <https://www.springfieldmo.gov/5641/Environmental-Services>
- <https://www.springfieldmo.gov/5532/Waste-Wizard>
- <https://www.cnbc.com/2021/11/21/how-college-students-can-help-save-the-environment-and-not-go-broke.html>
- <https://doi.org/10.3390/recycling6040069>
- <https://www.epa.gov/trash-free-waters/what-you-can-do-about-trash-pollution>
- <https://www.epa.gov/trash-free-waters/ten-ways-unpackage-your-life>



Citations



1. Missouri State University Campus
2. Canvas
3. "Environmental Programs Benefits of Recycling." National Institutes of Health, U.S. Department of Health and Human Services, <https://nems.nih.gov/environmental-programs/pages/benefits-of-recycling.aspx>.
4. Environmental Protection Agency. "Recycling Economic Information Report." Environmental Protection Agency , Nov. 2020, https://www.epa.gov/sites/default/files/2020-11/documents/rei_report_508_compliant.pdf.
5. "Recycling in the United States." EPA, Environmental Protection Agency, <https://www.epa.gov/recycle/recycling-united-states>.
 - a. Chariot Energy. "The 24 Biggest Benefits of Recycling." Chariot Energy, 22 Jan. 2021, <https://chariotenergy.com/blog/benefits-of-recycling/>.
6. Canva
7. "Take One Last Look at the (Many) Plastic Bags of New York." New York Times, 2020, <https://i.pinimg.com/564x/86/96/eb/8696ebd205b8f8d1d6bc0738a553bd7e.jpg>.
 - a. "Katrin Plus Roll." Katrin, https://www.metsagroup.com/contentassets/4f51cdd6cf7348859073df9bd5badbab/1491313738_2634_2658.jpeg?format=webp&width=1050&mode=crop&heightratio=1&quality=75.
 - b. "Nuclear Circle Danger Warning Radioactive Yellow." Walmart, <https://i5.walmartimages.com/asr/b5e05287-f6a7-4390-bb92-0e3a753b855b.0d27fbae18c139454fbd34236922c50a.jpeg?odnHeight=612&odnWidth=612&odnBg=FFFFFF>.
8. "Recycling on MSU Campus." Missouri State University, https://marvel-b1-cdn.bc0a.com/f00000000271534/www.missouristate.edu/Sustainability/_Files/bins.jpg.
9. Composting Food Packaging, Leo Carpenter, 2022
10. "Composting Dining." Hospitality Net, 2016, https://www.hospitalitynet.org/picture/xxl_153070689.jpg?t=1478002934.
 - a. "Compost Collection." Office Composting, 2020, https://images.squarespace-cdn.com/content/v1/58b8ba32b3db2ba5e143ba05/1490048471780-FU7QWG29JHV2NY433PMA/FoodScraps_Bin_InCircle2.png?format=300w.
 - b. "Sustainability Dining on Campus." Dine On Campus, <https://api.dineoncampus.com/files/images/cfa71206-c80f-43b8-9713-6dcc63dd533a.jpg>.
11. "Ten Ways to Unpackage Your Life." EPA, Environmental Protection Agency, <https://www.epa.gov/trash-free-waters/ten-ways-unpackage-your-life>.

*All other images and graphics are under Canvas Design