

# Welcome!

## ecoNutrition Café LECTURE

### Countdown to (Net) Zero:

Leading Sustainability Efforts on  
My Campus and in My Community  
to Achieve Carbon Neutrality

*Presented by Dr. Beth Choate, from Allegheny College*

**Wednesday, March 29, 5:30-7:00 p.m.**

*Jackson Avenue Center, Auditorium A*

Allegheny College was the first college in Pennsylvania and eighth college in the nation to achieve carbon neutrality.



Pre-registration is  
recommended.

Scan here to get more  
details and register.

*Presented by Communiversity in conjunction with the Office of Food and Nutrition Security*

**OleMiss.**

**Communiversity**



**GREENFUND**  
UNIVERSITY OF MISSISSIPPI

# Dr. Beth Choate

Chair & Associate  
Professor of  
Environmental Science &  
Sustainability

Allegheny College,  
Meadville, PA



ALLEGHENY  
COLLEGE

## ecoNutrition Café

**Countdown to (Net) Zero: Leading  
Sustainability Efforts on My Campus  
and In My Community to Achieve  
Carbon Neutrality.**

**Dr. Beth A. Choate**  
**March 29th, 2023, 6pm Jackson**  
**Ave Center, Auditorium A**  
**Register**

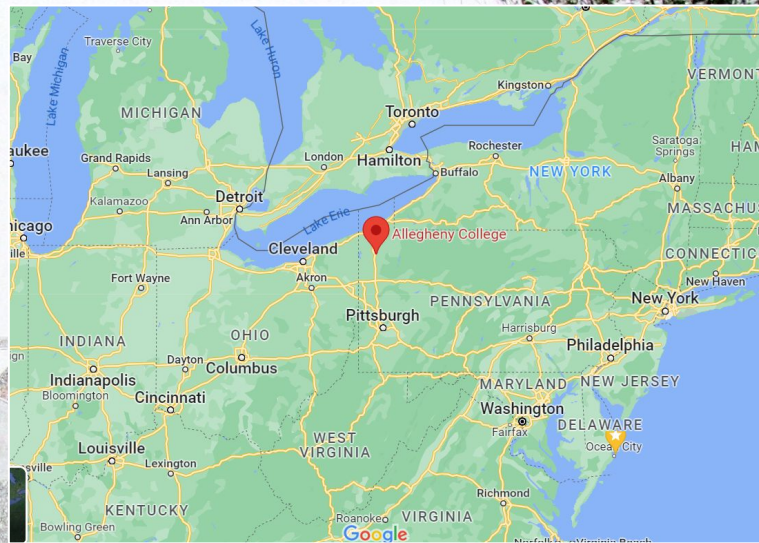
<https://forms.gle/PPBsARdoDGrYRX6P9>



**Presented by CommUniversity in  
conjunction with the Office of Food and  
Nutrition Security**











**2008--Signed the President's Climate Commitment**  
**Climate neutrality by 2020**

A person wearing a light blue t-shirt and a grey baseball cap is walking through a garden. The garden is filled with various plants, including large green leaves in the foreground and yellow flowers in the background. The scene is outdoors and appears to be a campus or community garden.

IN THE NEWS

# Allegheny Becomes 1st College in Pennsylvania, 8th in Nation to Achieve Carbon Neutrality

The milestone represents another moment of progress in continued efforts to be a sustainable and resilient campus and community member.

[Read More](#)



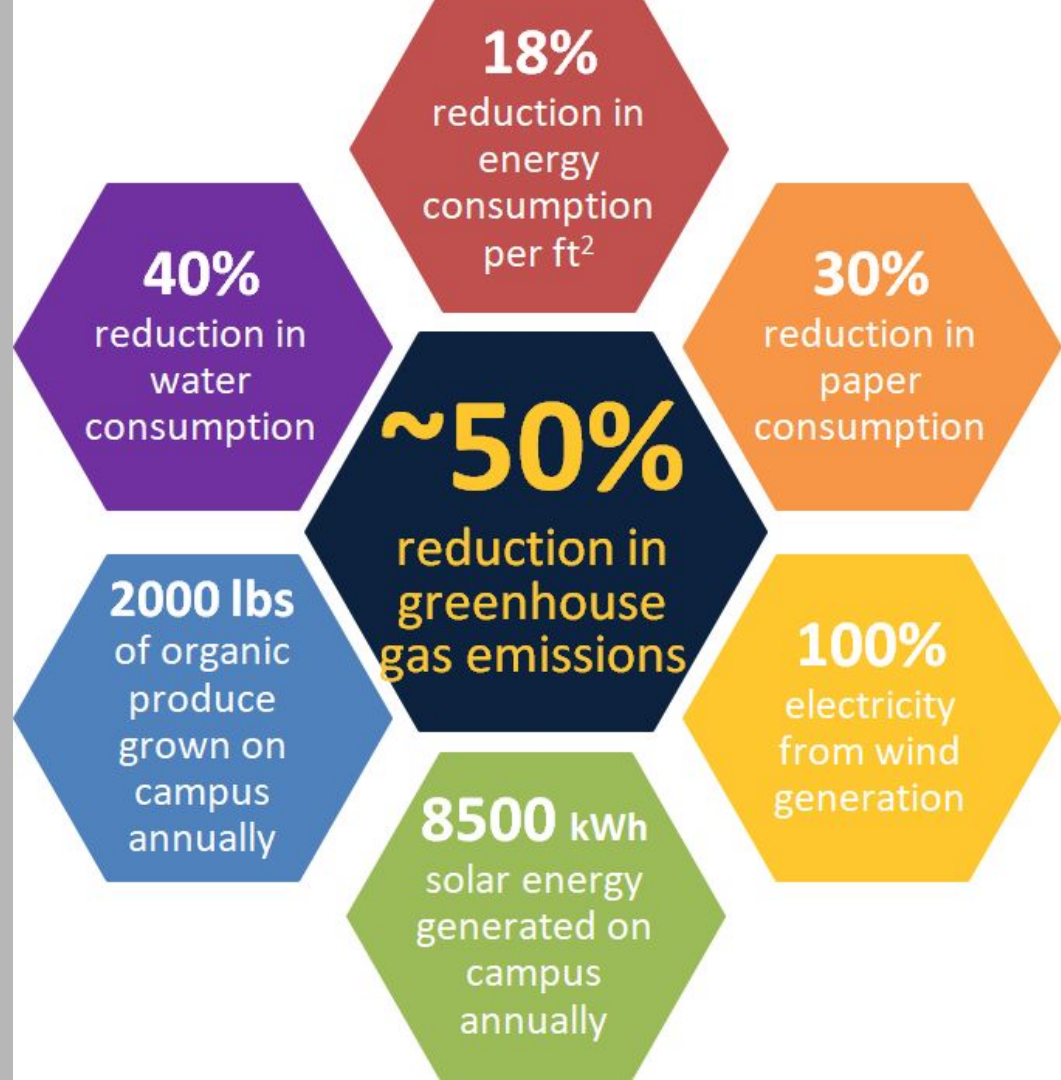


# What does C Neutral mean?

- C emitted = C absorbed
- **Electricity**
- **Heating & Cooling**
- **Transportation**
- **Embodied Energy** ☐
  - PRODUCE IT
  - USE IT
  - DISPOSE OF IT

# How we reached Carbon neutrality

- C Offsets (50%)
- Reduction in GHG emissions (50%)
  - Geothermal & On-Campus Solar Array
  - Efficiency Strategies
  - Carbon Credits
  - **Reduce Consumption & Waste**
  - **Compost**



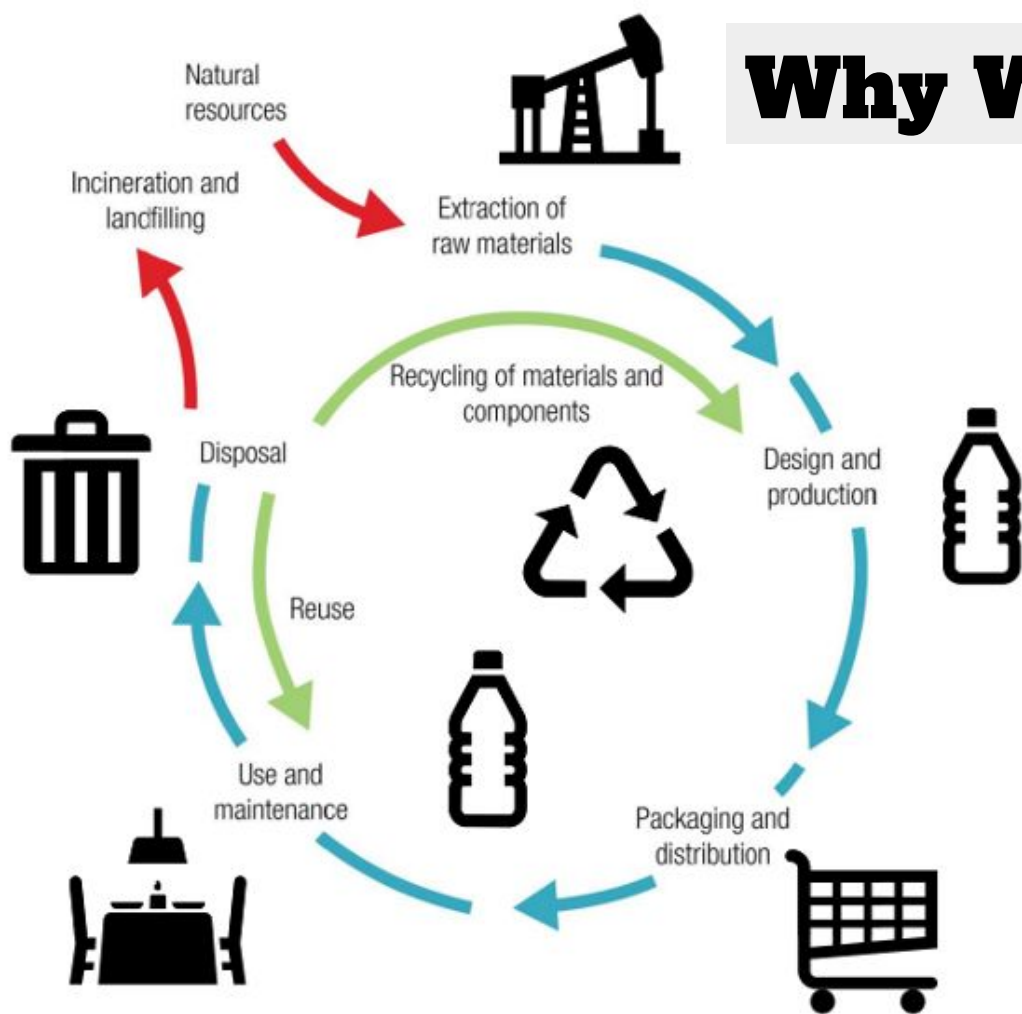
**One Example of a  
Sustainability  
Project involving  
faculty, students,  
staff & facilities**





**BAN Disposable Water Bottles**

# Why We Care?



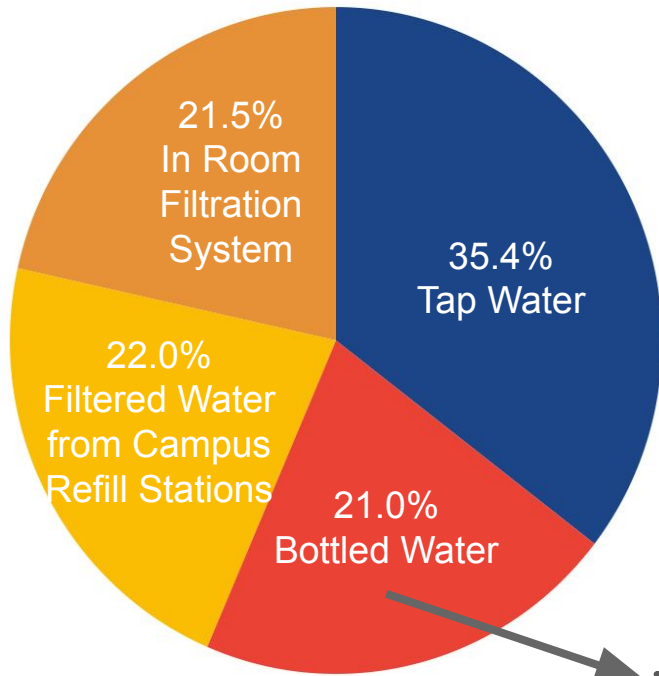




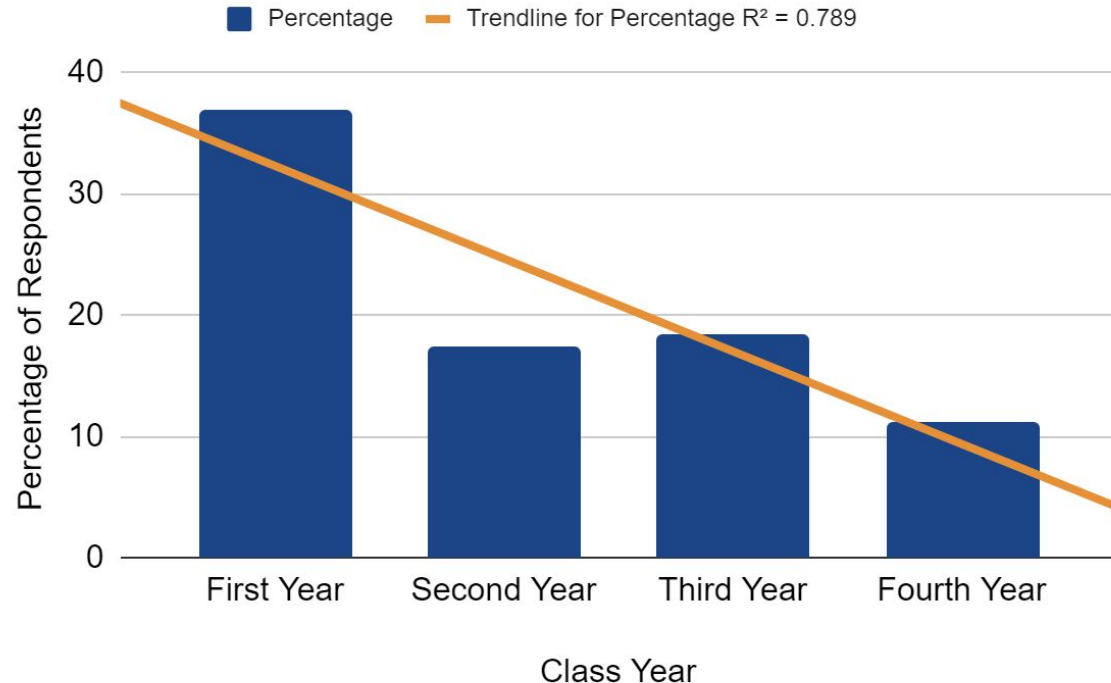
**Would a ban work?**

74% of bottled water NOT  
purchased on campus

# 2014: Water Consumption on Campus



**Choate B, Davis B and Verrecchia J\*.** (2018) Campus Bottled Water Bans, Not Always the Solution. *International Journal of Sustainability in Higher Education*. 19:5. 987-997. <https://doi.org/10.1108/IJSHE-06-2017-0089>.





# Why drink disposable bottled water?

"The **convenience** of just grabbing a bottle of water."

"...bottled water is almost always better **tasting** and delivered at a better temperature."

Is the tap water **safe**? 40% are unsure or say no

Refilling a reusable bottle is **difficult**



## Next Steps

- DID NOT BAN bottled water
- Increased Refill Stations from 4 to 24
  - Placed in common areas throughout campus
- All incoming students provided a high-quality reusable bottle

Need more than a sip?  
Get **free** cold  
**filtered water** at the  
lobby bottle refill fountain.

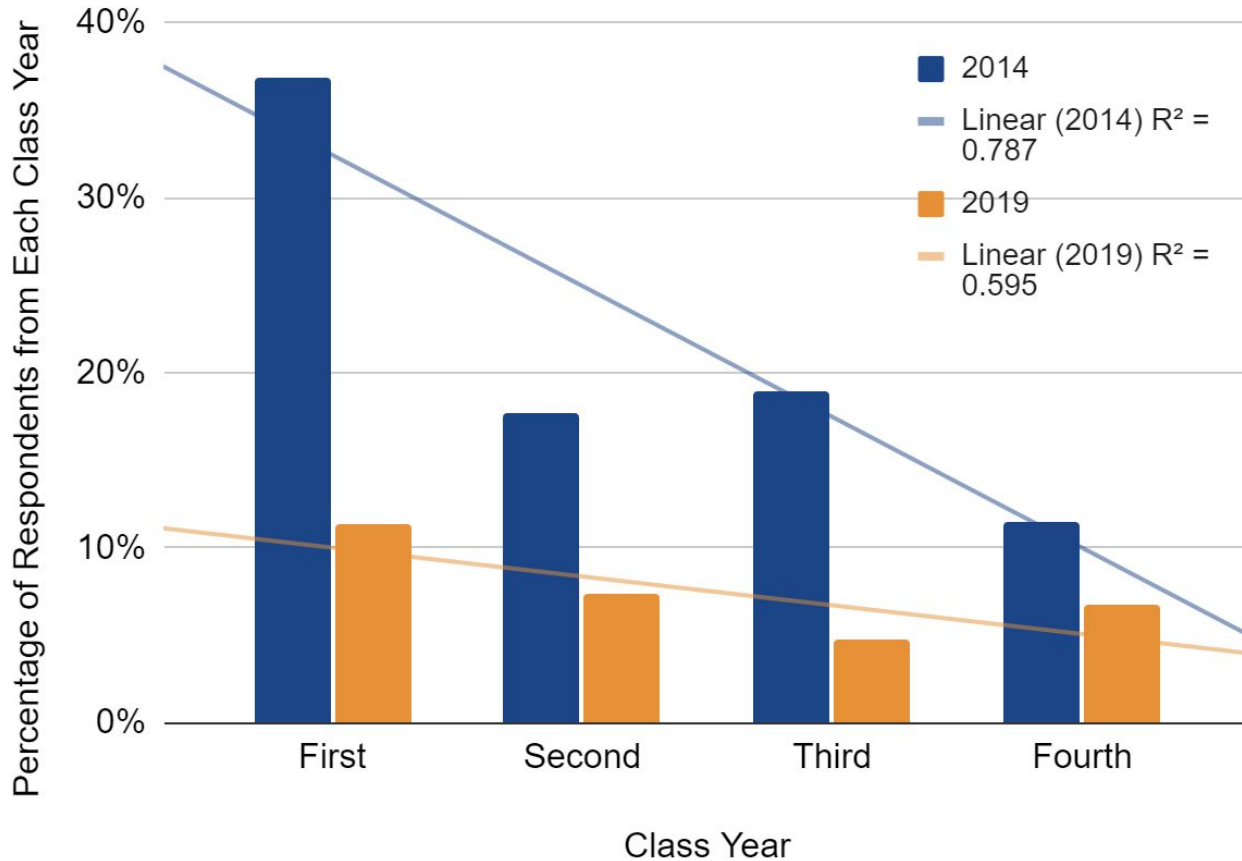
Check out the Elkay filter/fountain by the women's restroom.

A  
**GATOR A GREEN** initiative  
from the  
**Office of Student Involvement**



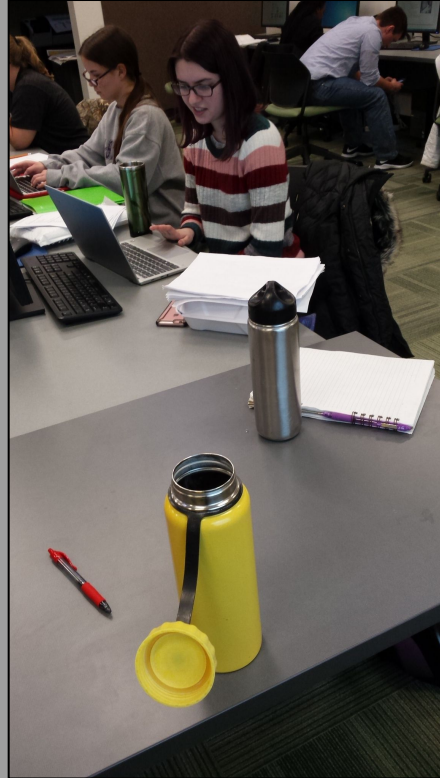
**5 years later...**

# 2019: Water Consumption on Campus





# Everyone brings a water bottle to campus (93%)



Bethurem M, Choate B and Bramwell S. (2021) Stop Piling on: Assessing Efforts to Reduce Single-Use Water Bottles at Allegheny College. *Sustainability*. 13 (16): 8864. <https://doi.org/10.3390/su13168864>

## Next Steps

- Get rid of free bottle program
- Add refill stations to dorms
- Provide students with cleaning options

“**Cleaning** stations?” -- 2nd year Female

“Water bottle fillers at all water fountains! The water fountain in my hall has no pressure and I can not fill my water bottle all the way.” -- 2nd year Female

“More filter stations in more places. a lot of the **dorms** don't have them and that is where i drink most of my water” -- 4th year Female



# **Additional Efforts toward C Neutrality**

# Compost





# Waste Minimization: Reusable Containers

**BRING  
YOUR OWN  
CUP**

**99¢**  
ANY BEVERAGE

SAVE ABOUT  
\$60/SEMESTER  
(CALCULATED FROM  
TYPICAL \$2.00  
DISPOSABLE CUP AT  
\$0.30 EACH)

1 week 1 month 1 semester 4+ years

GATEWAY GREEN







**Waste Minimization:  
Food Recovery**





# **On-Campus Garden**



# On-Campus Garden

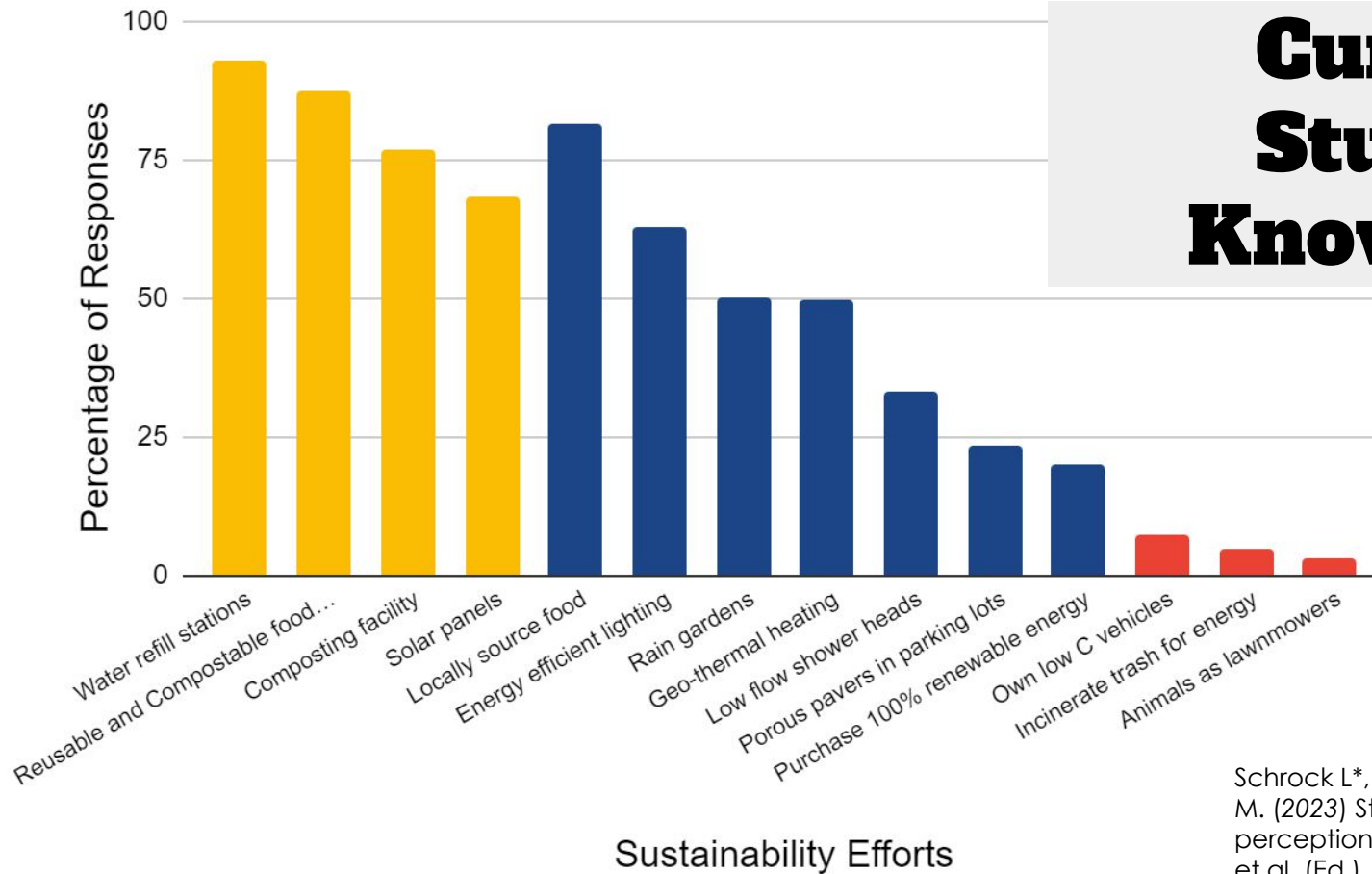


# **Goals:**

- **Reduce our C footprint**
- **Educate our students**



# Current Student Knowledge



Schrock L\*, Giannini L\*, **Choate B**, Bethurem M. (2023) Student knowledge and perceptions of a green campus. In W.L. Filho et al. (Ed.), *Education the Sustainability Leaders of the Future*. (pgs. 245-255) Cham, Switzerland: Springer International Publishing AG.

# What can YOU do?

- Carry a reusable bottled water
- Invest in a water filtration system
- Minimize food packaging
- Do your research on the impact of food choices

We asked U.S. adults which source of clean drinking water is most trustworthy. Here are the top three answers:



41%

BOTTLED WATER



29%

WATER FILTERED WITH A  
WHOLE HOUSE SYSTEM



9%

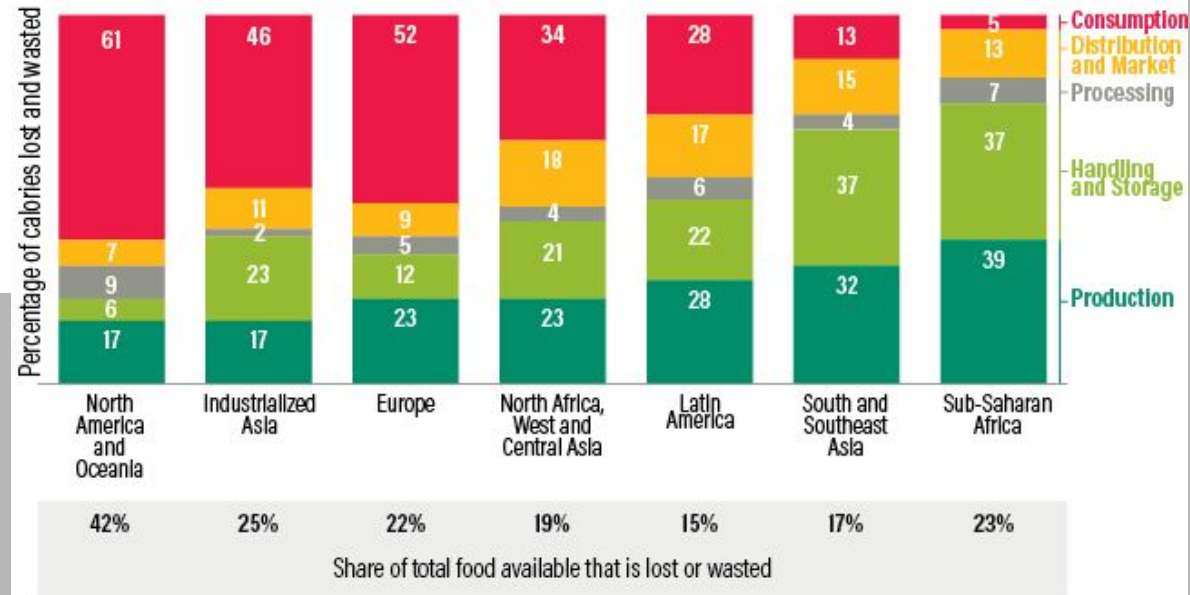
WATER FILTERED  
WITH A PITCHER

**REALITY CHECK:** According to a 2019 Environmental Work Group (EWG) article, "The Top 5 Reasons To Choose Filters Over Bottled Water", EWG lab testing found contaminants in popular brands of bottled water, including disinfection byproducts, industrial chemicals, prescription drugs, and even bacteria.

# Reduce food waste by:

- Composting
- Making smaller shopping trips

Where food loss and waste occurs along the food supply chain



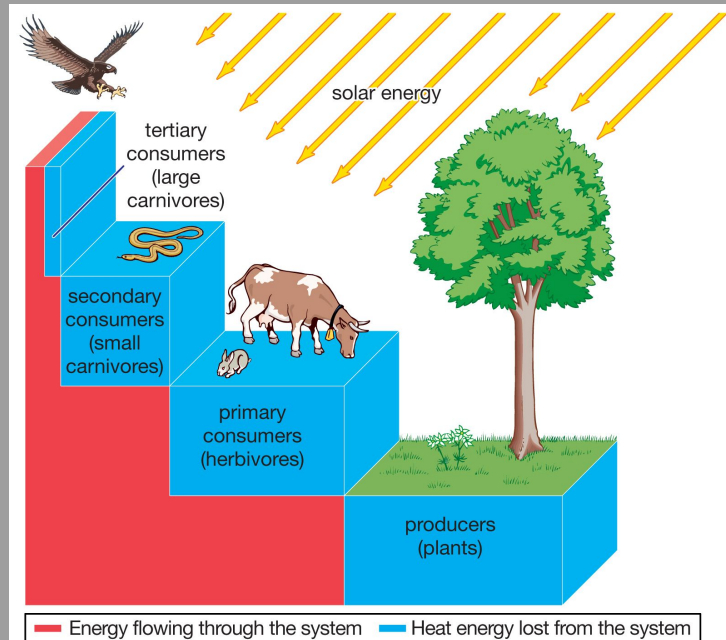
Source: WRI analysis based on FAO (2011b).



WORLD RESOURCES INSTITUTE



# Eat lower on the food chain

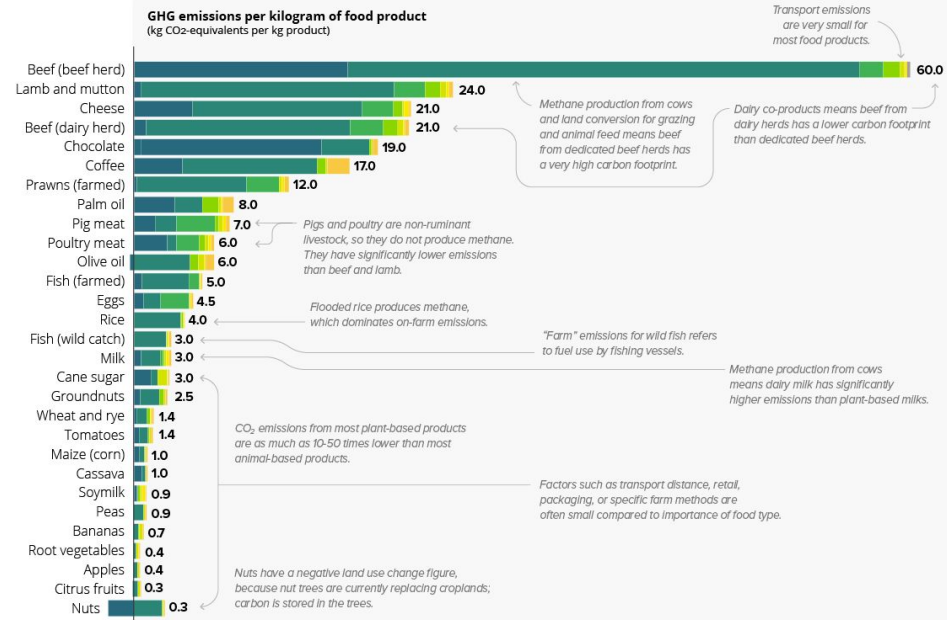
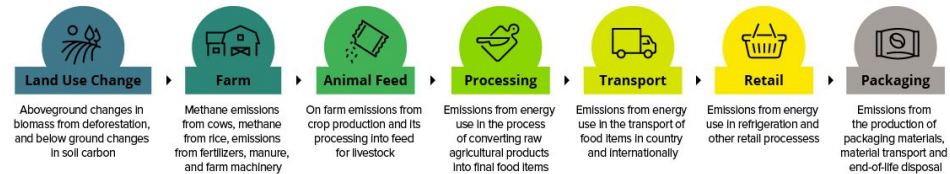


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## FOOD / Greenhouse gas emissions across the supply chain

Original graphic by  
Our World  
in Data

There is a vast difference in greenhouse gases (GHG) that are produced across various food types.



Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries. Data source: Poore and Nemecek (2018), Reducing food's environmental impacts through producers and consumers. Science. Images sourced from the Noun Project. OurWorldinData.org - Research and data to make progress against the world's largest problems.



**All Actions are  
Important!**

**Collectively, there  
is a HUGE impact**



# Think about YOUR Institution

- Average American uses 156 plastic disposable bottles/year
  - X 12,000 students = 1.9 million bottles on your campus
- Average amount of food waste/person = 219 lbs.
  - 219 lbs (or 650 apples)
  - X 12,000 students =
  - 2.6 million pounds of food waste (or 7.8 million apples)

**If students are learning about the importance of these efforts, consider the impact when they leave here**



# THANK YOU for Attending!

- Dr. David Holben
- Office of Food & Nutrition Security
- Communiversity
- University of Mississippi  
GREEN FUND

*Presented by Communiversity in conjunction with the Office of Food and Nutrition Security*

*Ole Miss*

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**For more information,  
check out this link!**

# Evaluation & Door Prizes





# **Countdown to (Net) Zero: Leading sustainability efforts on my campus and in my community to achieve C neutrality**

**Beth A. Choate, Ph.D.**  
Department of Environmental  
Science & Sustainability  
Allegheny College, Meadville, PA



How do institutions of higher education become learning laboratories?

How do we ensure that GREEN campuses make GREEN citizens of the world?

