

# \$ustainability On a Budget!

Money Smart Week  
Spring 2024

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**What word or phrase  
comes to mind when you  
think of sustainability?**

① Start presenting to display the poll results on this slide.

# Goals of the presentation:

1. **Expand your view of sustainability**
2. **Learn how UMBC is becoming more sustainable**
3. **Inspire you to think about sustainability in your consumption habits**
4. **Help you save money in the short- and long-run**

# Definition of Sustainable Development

UN World Commission on Environment and Development:  
“development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (1987)

# A Narrow View of Sustainability



# The “Triple Bottom Line”

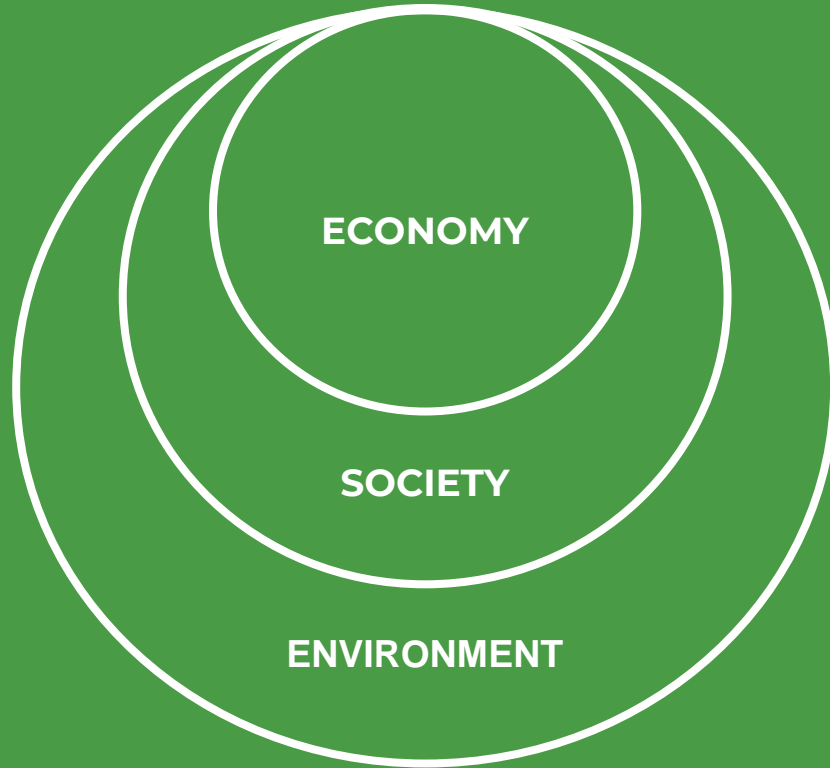


**SOCIETY**  
**(people)**

**ENVIRONMENT**  
**(planet)**

**ECONOMY**  
**(profit)**

# Another View





# The UMBC Campus is a Community & Ecosystem



**Serves +14,000  
students**



**Includes 70  
buildings**



**Manages +500  
acres**



# UMBC's Office of Sustainability

Together, we collaborate, catalyze, and celebrate sustainability in all our practices. **UMBC strives to protect, restore, and generate a healthy and just environment for all.**

# Building a Sustainable Community

## Peer-to-Peer Education:

- Eco-Ambassadors
- Green Offices
- Composting Programs

## Community Garden:

- 2014 student led project

## Volunteer Events

## Career Panels & Experts



# UMBC's Progress

(as of FY2022)

19

**Electric vehicle chargers**

15%

**Reduction in electricity use**

(from FY2007 baseline)

44%

**Energy from renewable sources**

67%

**Energy from carbon-free sources**

36%

**Reduction in Net GHG emissions**

(from FY2007 baseline)

# Green Buildings

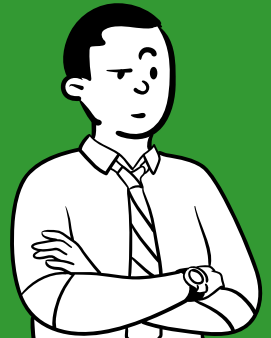
Every new building or large renovation project on campus will be built to at least LEED Silver Certified, or equivalent

## 6 LEED Buildings:

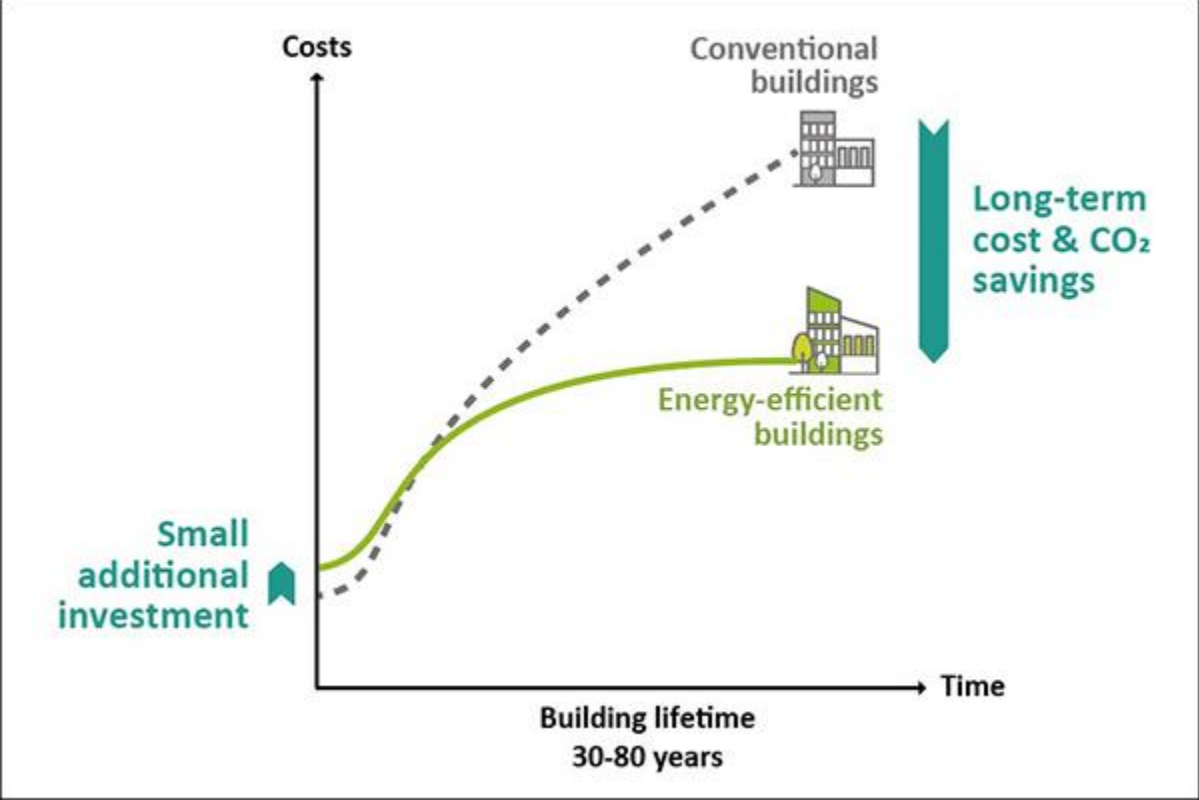
- Community Center – Silver
- Patapsco Hall Addition – Gold
- PAHB – Gold
- ILSB – Gold
- Event Center – Silver
- Center for Well-Being – Silver



**What about the  
extra cost to  
build green?**



# Short-Term Pain for Long-Term Gain

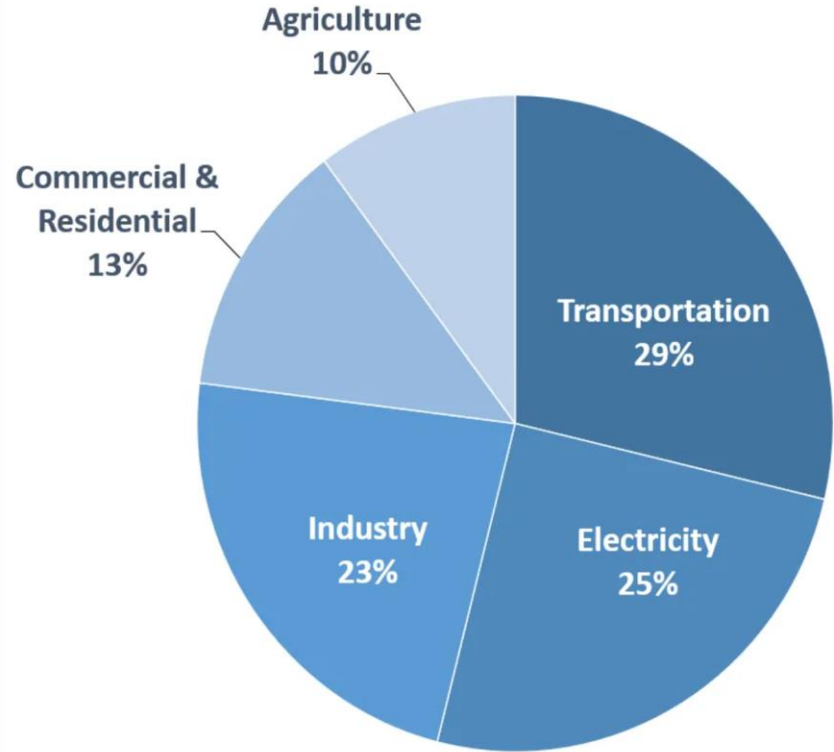


# What can you do as an Individual?

The idea of reducing your personal carbon footprint has often been used as a distraction by big business.

However, there are still actions you can take to improve your own quality of life while following sustainable principles.

**Here are 10 personal tips**  
**But first...**



U.S. Environmental Protection Agency (2021). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019



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**What's one budget-smart  
Sustainability Tip you can  
share?**

① Start presenting to display the poll results on this slide.

# Tip #1: Purchase & Consume Less

- We live in a culture of more!
- Social comparison leads us to believe we are falling behind our peers
- Shopping provides instant (but temporary) gratification
- This can be a very tough cycle to break





— THE —  
**HEDONIC  
TREADMILL**

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# Tip #2: Emphasize durability and reuse

- Think of your purchases as an investment
- Purchase high quality (when you can) and take great care
- Consider reparability in your purchases, and mend what you can
- Use items until they are truly worn out

"Pay full price for this book... It's worth it."  
—*The New York Times Book Review*



# ☹CHEAP

*The High Cost  
of Discount Culture*

ELLEN RUPPEL SHELL



# Tip #3: Choose a plant-centric diet



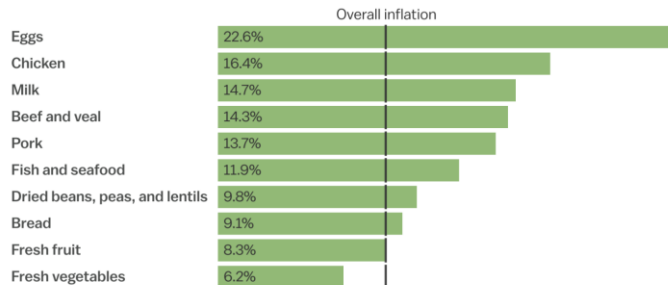
Home > News > Sustainable eating is cheaper and healthier - Oxford study

## Sustainable eating is cheaper and healthier - Oxford study

CLIMATE CHANGE | ENVIRONMENT | HEALTH | RESEARCH | SOCIAL SCIENCES | TRUE PLANET

### Meat, milk, and egg prices have risen much higher than inflation

Percentage increase from April 2021 to April 2022



Source: US Bureau of Labor Statistics

Vox

## My Personal Take:

Skip the meat “replacements.” Instead, cook a variety of tasty vegetable dishes like:

- falafel
- ratatouille
- stir fry
- pasta with mushrooms
- veggie-chilli
- rice & beans
- huevos rancheros



# Bonus Tip: Choose foods growing in-season

## Get S'mitten with Winter Fruit + Veg!



### JANUARY

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### FEBRUARY

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### MARCH

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## Put a SPRING in your step for these fruit + Veg!



### APRIL

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### JUNE

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## These Summer Fruit + Veg are WAY COOL!



### JULY

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### AUGUST

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### SEPTEMBER

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## FALL for tasty AUTUMN Fruit + Veg!



### OCTOBER

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### NOVEMBER

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### DECEMBER

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# Tip #4: Opt for slow shipping



**NEXT DAY AIR!**





# Tip #5: Avoid the landfill

- Reuse items until the very end of their useful life
- Divert food scraps and yard waste to compost (skip buying fertilizer)
- Upcycle worn out items, clothes, packaging
- Purchase items second hand or refurbished







# Tip #6: Upgrade your lighting

- LEDs are the “new standard”
- They have one of the clearest financial paybacks with no downside
- Pay for themselves with energy savings and incredibly long lifespans



*“The light-emitting diode (LED) is today's most energy-efficient and rapidly developing lighting technology. Quality LED light bulbs last longer, are more durable, and offer comparable or better light quality than other types of lighting.” - US Dept. of Energy*



# Tip #7: Use People Power!





# Tip #8: Choose Public Transportation



**It's more than just the price of a ticket!**  
**Consider the hidden costs of maintenance, accidents, insurance, cabs, and more!**

# Tip #9: Fight Energy Waste

- Find and close off drafts
- Turn down your water heater
- Adjust your thermostat
- Get rid of your space heater



## COMMON PHANTOM LOADS

### Kitchen Appliances

*incl. toasters, microwaves,  
kettles, coffee makers etc.*



### Office Equipment

*incl. laser printers, fax machines,  
telephones, projectors etc.*



### Chargers

*incl. mobile chargers, iPad  
chargers, laptop chargers etc.*



### Monitors

*incl. computer monitors,  
television screens etc.*



Building Beyond Green™



# Tip #10: Hydrate!

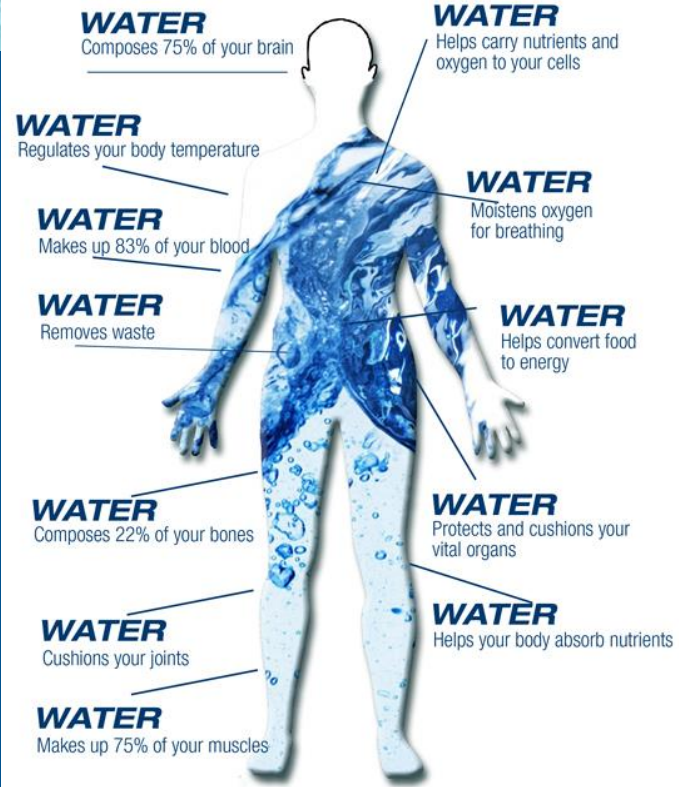
- Skip the soda, seltzer, coffee, tea, or another beverage of choice
- Use a reusable water bottle (and keep it!)



## Did you know?

The body is around  
**70% water**

## *Drink More Water! Your Life Depends On It*







*Drink one liter of water for every 50 pounds of body weight (so a 150 lb person would need to drink a total of 3 liters that day).*

**How about  
some heavier  
investments?**

# Home Electrification

*“Today, the average household that uses heat pumps and drives EVs spends around \$2,600 less annually in energy costs than those with natural gas heating and gasoline-powered cars. Savings for the all-electric household increase to around \$4,000 annually compared to homes that are heated with oil or propane.” - MD Dept. of Environment*

## Key Pillars of Beneficial Electrification:

-  **1 Saves money**  
More energy-efficient appliances waste less electricity, saving money on utility bills.
-  **2 Benefits the environment**  
Wasting less electricity, driving an electric vehicle, and using clean energy reduces carbon emissions.
-  **3 Improves quality of life**  
New, smarter technology can provide better living experiences at home and on the road.
-  **4 Fosters grid resilience**  
Smart appliances and homes can work together to help avoid costly energy-use peaks on the grid.



# How can I pay for this stuff?

- **Tax Credits offered through the Inflation Reduction Act (IRA)**
  - The IRA is all carrot, no stick
  - Through 2032, you are eligible for Clean Energy Tax Credits
  - [Check out the DOE Energy Savings Hub](#)
- **Maryland Energy Administration (MEA) Residential Incentives:**
  - Grants and Low-Interest Loans
  - Tax Credits
- **Empower Maryland (Utility-Sponsored Programs)**
  - Rebates
  - Discounted Products (smart thermostats, etc.)

# IRA

EQUIPMENT TYPE	TAX CREDIT AVAILABLE FOR 2022 TAX YEAR	UPDATED TAX CREDIT AVAILABLE FOR 2023-2032 TAX YEARS
<b>Home Clean Electricity Products</b>		
Solar (electricity)	30% of cost	
Fuel Cells		
Wind Turbine		
Battery Storage	N/A	30% of cost
<b>Heating, Cooling, and Water Heating</b>		
Heat pumps	\$300	30% of cost, up to \$2,000 per year
Heat pump water heaters		
Biomass stoves		
Geothermal heat pumps	30% of cost	
Solar (water heating)		
Efficient air conditioners*	\$300	30% of cost, up to \$600
Efficient heating equipment*		
Efficient water heating equipment*	\$150	30% of cost, up to \$600
<b>Other Energy Efficiency Upgrades</b>		
Electric panel or circuit upgrades for new electric equipment*	N/A	30% of cost, up to \$600
Insulation materials*	10% of cost	30% of cost
Windows, including skylights*	10% of cost	30% of cost, up to \$600
Exterior doors*	10% of cost	30% of cost, up to \$500 for doors (up to \$250 each)
Home Energy Audits*	N/A	30% of cost, up to \$150
Home Electric Vehicle Charger	30% of cost, up to \$1,000	30% of cost, up to \$1,000 **
<p>* Subject to cap of \$1200/year</p> <p>** The IRS will soon publish further information on eligibility requirements related to home electric vehicle chargers, but we know that credits are intended for residents in non-urban or low-income communities.</p>		



**bge**<sup>SM</sup>

AN EXELON COMPANY

Measures	Rebate Amount
Air Sealing and Insulation	Rebate amount based on modeled electric and gas savings up to \$7,500 or 75% of total project cost.
Heating and Cooling Equipment*	
ENERGY STAR® Windows and Doors*	
Heat Pump Water Heaters	
Duct Sealing	\$500, or \$750 if done in combination with Air Sealing and Insulation.
Smart Thermostat	\$100 per ENERGY STAR® certified smart thermostat with professional installation. Up to three.
Total Maximum Customer Rebate	Rebate amount based on modeled electric and gas savings up to \$7,500 or 75% of total project cost.

# EV Credits

- **Federal Tax Credit: \$7500 at point-of-sale**
- **Maryland Tax Credit: \$3000 for most EVs**
- **Companies may also pay for a home charger**
- **Free charging may be available (for now)**



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