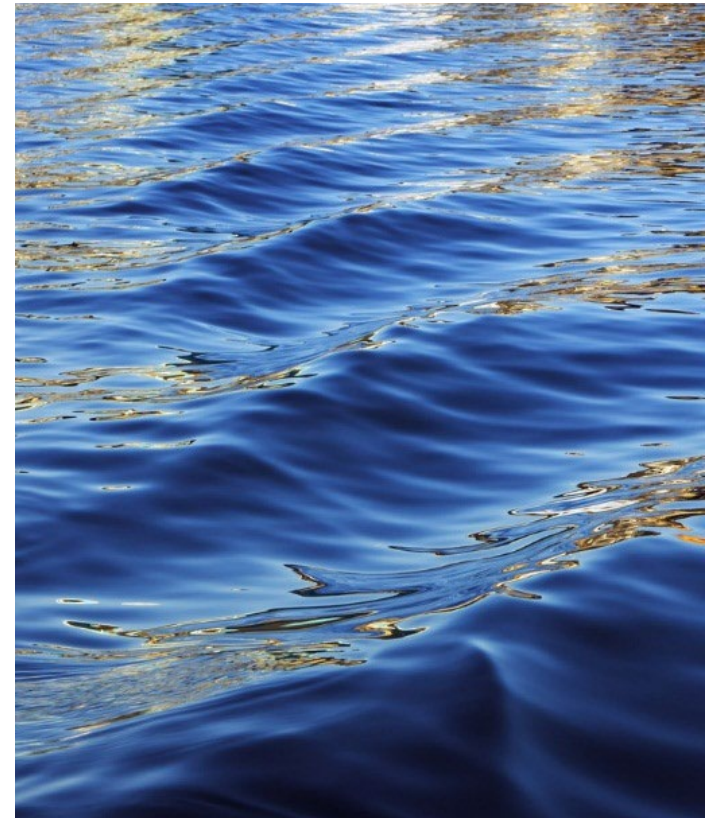




# Sustainability in Higher Education, at Bowie State University

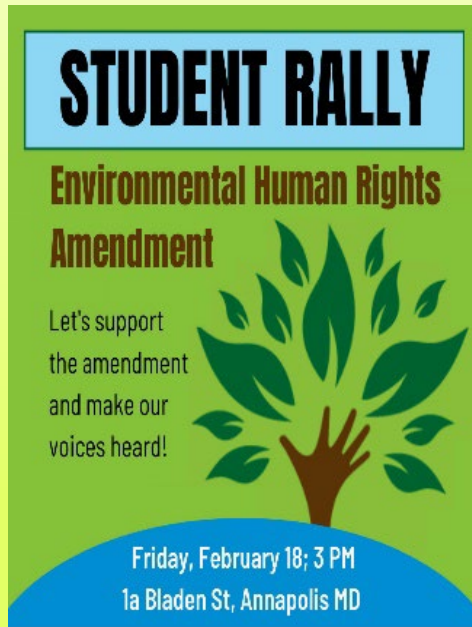
8/17/2022 Presentation by Jabari Walker  
EDUCATION, COMMUNICATION AND OUTREACH



# Role of Higher Education in Climate Change & Environmental Sustainability

*Higher Education Institutions have the societal responsibility of providing guidance to students, faculty, staff, and administration and their decisions affect the economic, social and environmental dimensions of the communities and regions around them*

-Journal of Cleaner Production Volume 233, October 2019



- Social learning
- Research
- Engagement with & influence on local communities
- Development of policy advocates



# Institutions must customize

***To combat climate change in higher education, it is important that each college or university find their own niche and put things into practice that work best for their campus community and surrounding environment using the resources that they have.***

**Jabari Walker, 2022**

## Factors to consider:

Various sizes and categories

Locations

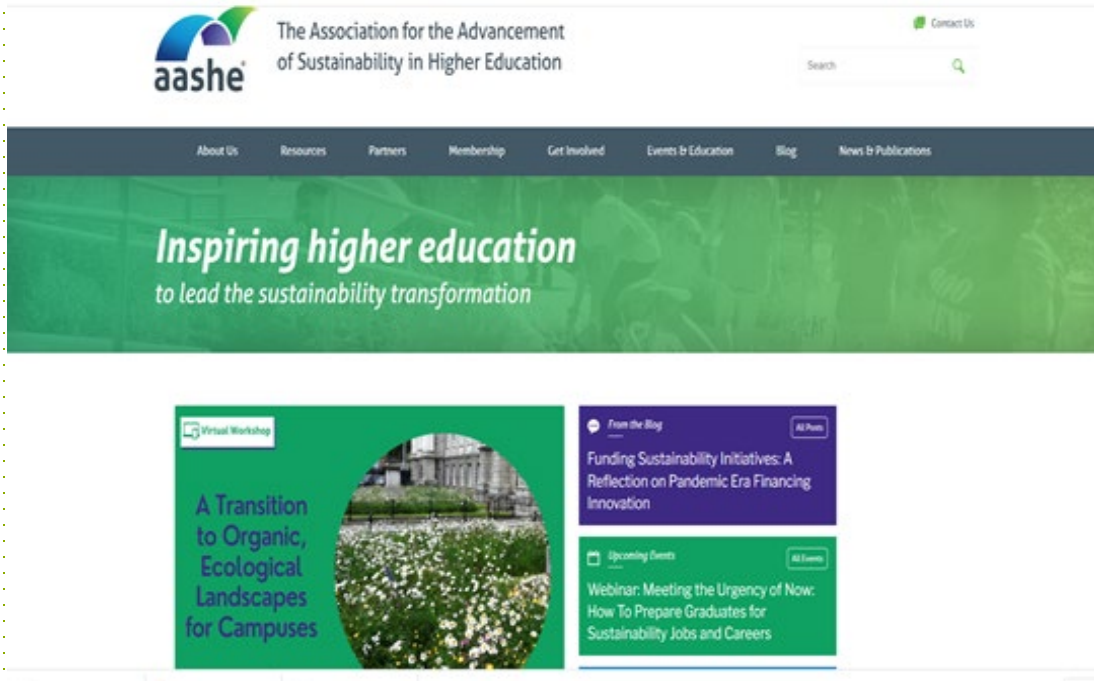
Demographics

Available resources



# Networks are important!

**AASHE** empowers higher education faculty, administrators, staff and students to be effective change agents and drivers of sustainability innovation.



**Second Nature** committed to accelerating climate action by mobilizing a diverse array of higher education institutions to act on bold climate commitments, and to create innovative climate solutions

## Other Global Associations

- ❖ The European School of Sustainability Science and Research
- ❖ The Inter-University Sustainable Development Research Programme (IUSDRP) and
- ❖ The German Consortium for Sustainability Research (DEKONA)



# UNIVERSITY SYSTEM *of* MARYLAND

Environmental Stewardship is an important priority for the University System of Maryland and also an arena in which the USM is positioned to be a key leader.

- **University of Maryland**



## University of Maryland Eastern Shore

- Solar farm
- 'Green Collar initiative'

## Frostburg State University

- Microgrid

## UMBC

- Bwtech collaboration with USGS

## UMCES

Offshore Wind Research Partnership

# BSU Curriculum and research

## Student led Water monitoring program



Environmental Science Program  
Online Libguide on Sustainability  
Sustainability infused into many course syllabi

## Hydroponics and aquaponics technology research



## Analysis of turtle diets for environmental threat cues



# About Bowie State...

- Founded in 1865, oldest HBCU in Maryland
- Part of the University System of Maryland
  - 23 undergraduate majors; 19 Master's & 2 Doctoral programs
  - Over 6,300 students
  - NCAA Division II
  - 50+ clubs and organizations

## Core values:

Excellence

Inclusivity

Integrity

Accountability

Innovation

## Progression of sustainability at BSU

2007-- Former President signed the ACUPCC and University established the C4

2009-- Initial Climate Action Plan was drafted

2014-- Energy Performance Contract (JCI) agreement

Student Green Ambassador group created

2015-- The University signed Climate Commitment and White House Act on Climate Pledge

2017-- The University began installation of it's solar panel system

2020-- Created BSU Climate Action Plan 2020



# Bowie State Climate Action Plan 2020

Goal 1A- Continue Management of Solid Waste through reduction of paper usage

Goal 1B- Continue Management of Solid Waste through reduction of food waste and reducing food insecurity

Goal 1C- Continue Management of Solid Waste through increased recycling and /or reusing

Goal 2- Increase Energy Efficiency and Usage

Goal 3- Foster sustainable behavior through curriculum and training, community engagement, awareness activities and communications enhancement

Goal 4- Reduce carbon footprint from transportation related emissions

Goal 5- Continue sustainable environmental and landscaping actions

Resilience



# By the Numbers...

## Recycling 2021

BSU recycle efforts yielded (in tons):

- 178.6 = glass, metal & plastic
- 34.5= cardboard
- 8.35= white paper (not including Shred Day)

221.70 tons of recycled material

Facility recycling rate= 37.66%



Maryland State Agencies 2020 Recycling Rates

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2020 (tons)	2020 MRA Recycling Rate (%)
University System of Maryland	19	13	146,183	4,749.96	38.48
<b>TOTAL</b>	<b>441</b>	<b>280</b>	<b>228,227</b>	<b>16,380.57</b>	<b>23.51</b>

# By the Numbers....

## Emissions



### Change in Emissions from 2007 to 2020:

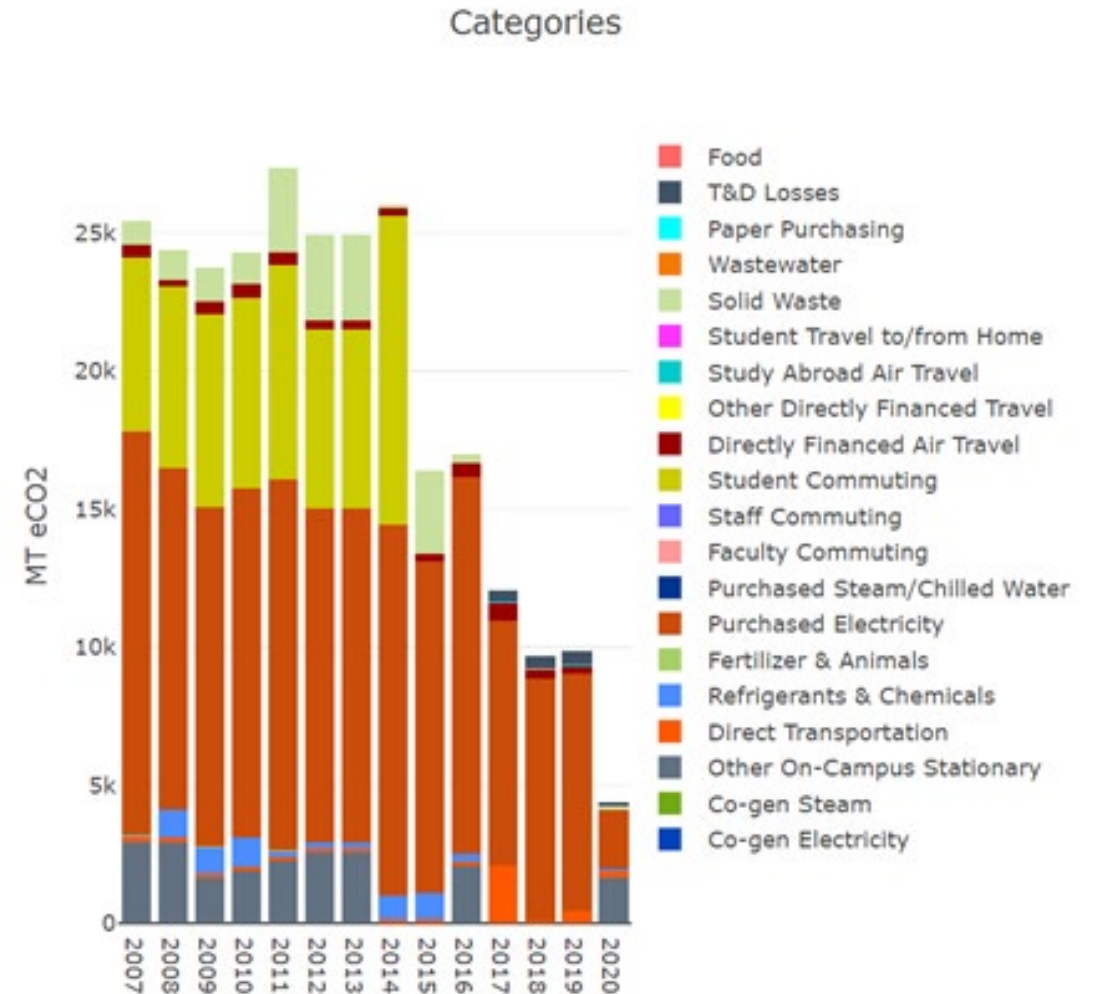
Scopes 1 and 2: -77%

Scope 3: -96%

Gross emissions: -83%

Net emissions: -83%

Fiscal Year	Net MTCDE
2007	25,444.00
2008	24,367.00
2009	23,743.00
2010	24,306.00
2011	27,325.00
2012	24,950.00
2013	24,950.00
2014	25,933.00
2015	16,388.00
2016	16,993.00
2017	12,067.95
2018	9,675.73
2019	9,841.87
2020	4,397.55



# Energy Performance Contract

## Saving Money, Reducing Emissions

- Period 2014-2028
- The contract guarantees a minimum of \$7.4 million in cost savings
- At the end of Year 8, we have saved over \$4.6 million
- Several improvement measures and innovations throughout the campus



**29,982**  
**Tree seedlings grown**  
**for 10 years**



**4,198**  
**Barrels of oil consumed**



**228 Homes**  
**Energy use for 1 Year**

Johnson Controls

# Energy at BSU

Part of BSU's goal is to be conscious of how energy resources are utilized in our buildings

## Energy Usage

- Real-time (touch-screen) dashboards
- Utilize EnergyCap/BITH for energy monitoring (utilities)
- Most campus external & internal lighting LED retrofitted

## Solar Energy

- Between 15-20% of our campus needs from solar energy (7 sites)
- Solar powered projects including trash compactors, bus shelter, charging tables



# Other Accomplishments...

## Buildings and grounds

LEED **Gold** Student Center

LEED **Platinum** CNMSN

New ELLC Building projected LEED Gold  
25 tree fruit orchard planted (Oct 2020)

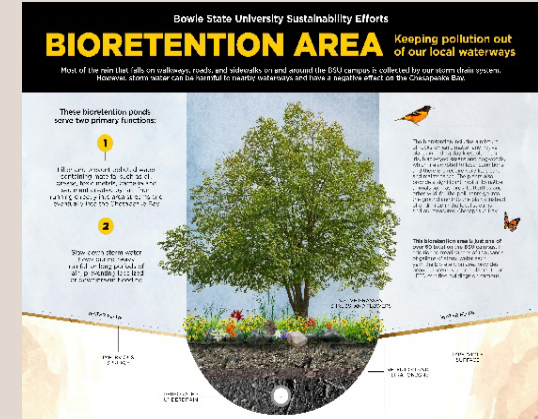
Peace Park



## Stormwater Management

We are committed to reducing water pollution & flooding

Over 60 bioretention facilities around the campus.



## Transportation

Bikeshare Program

Hybrid & electric vehicles on existing fleet

Electric Vehicle (EV) charging stations



# Student Engagement!



## 2021-22 ACADEMIC YR

- 🍃 Clean up Events
- 🍃 Nature Walk
- 🍃 Movie on the lawn
- 🍃 Tree planting
- 🍃 Discussion w/ Candidates
- 🍃 Block Party



# BSU Student Green Ambassadors



- Largest & most active group
- First time with officer positions
- Officially recognized student organization (Summer 2022)
- Drastically increased campus profile
- Significantly increased student interest & social media presence



# First BSU Climate Career Fair!

- First such specialty career fair (virtually)
- Over 20 national, state, local & non-profit agencies
- Offering of internships and job opportunities
- Participation of 130+ students.

The event featured a roundtable discussion featuring Bowie State President Breaux, UMCES President Peter Godwin, and Secretary of the Environment Ben Grumbles.



**\*Virtual\***  
**BOWIE STATE UNIVERSITY**  
**February 16, 2022**  
**1-3:30pm**

Features federal and local agencies!  
All BSU students & alums are welcome!  
*\*plenty of internships & fellowships also available\**

*Roundtable featuring President Breaux, Secretary (of Environment) Ben Grumbles, and UMCES President Dr. Peter Goodwin*

  
Registration for students and employers here

**\*Virtual\***  
Co-sponsored by MD Dept of the Environment

  
BOWIE STATE UNIVERSITY 1865



# Additional projects we're working on

## Peace Park Revitalization



- **Serve as a Memorial Park**
- **Ecologically beneficial natural area (will include native plants)**
- **Peaceful place for the community to meditate, connect with nature, & engage with one another**
- **Volunteer service hours (for student maintenance)**

## MEA FY22 Resilient Grant Proposal

BSU was granted a \$100k grant from Maryland Energy Administration to fund a feasibility study on our campus to potentially identify DERs (i.e. microgrids) to help improve resilience & sustainability and reduce energy burdens





**bsugreen65**

<https://www.bowiestate.edu/about/sustainability/>

**BOWIE STATE UNIVERSITY**



**THE POWER IS IN THE GREEN**

**B\_Sustainable**