



# Sustainability @ ESF

• PRACTICING WHAT WE TEACH •

Who we are

What we do

Rankings & Targets

Get Involved

Questions



**Mark Lichtenstein**

*Chief of Staff & Chief Sustainability Officer*



**Josh Arnold**

*Director of Energy Management and Utilities*



**Justin Heavey**

*Sustainability Associate*



**Amelia Hoffman**

*Communication & Engagement*



**Alex Poison**

*Office Staff/PhD Candidate*



**Student Assistants**

*Rotating*



# Collaborators

- Physical Plant & Facilities
- Grounds
- Forest Properties
- Student Affairs
- Communications
- Admissions
- Inclusion Diversity and Equity



- Business Office
- Students and clubs
- All academic departments

...and many others

# Defining Sustainability

- Meeting the needs of the present and future generations
  - *Environmental, economic, social*
- ESF Vision and Mission
  - *“...sustaining human prosperity and integrity of the natural world.”*
  - *“... programs focused on building sustainable communities and environments.”*
- Higher education leading the way
- Thinking globally, act locally
- Practice what we teach
- Integration across the institution





## The Association for the Advancement of Sustainability in Higher Education

- Sustainability Tracking Assessment and Rating Systems (STARS)
- National standard – 917 colleges and universities
- Planning & administration, Academics, Operations, Engagement, Innovation
- Princeton Review Green Colleges, Sierra Club Cool Schools



# Where do we Rank?

	<b>Overall Score</b>	
1	University of California, Irvine	86.82
2	Stanford University	85.74
3	Colorado State University	85.56
4	University of New Hampshire	85.51
5	Green Mountain College	81.82
6	Dickinson College	81.45
7	Arizona State University	80.84
8	University of Connecticut	78.48
9	Middlebury College	77.55
10	Santa Clara University	76.21
11	University of Massachusetts Amherst	75.77
12	University of Colorado Boulder	75.41
13	American University	75.35
14	Sterling College	75.27
15	University of Colorado Colorado Springs	74.27
16	University of San Diego	74.17
17	Loyola Marymount University	73.47
18	California State University, Chico	73.41
19	University of California, Santa Barbara	73.28
20	Oregon State University	73.27
21	Oberlin College	73.13
22	University of Minnesota, Morris	73.04
23	SUNY ESF	73.03
24	Bentley University	72.56
25	Colgate University	72.19

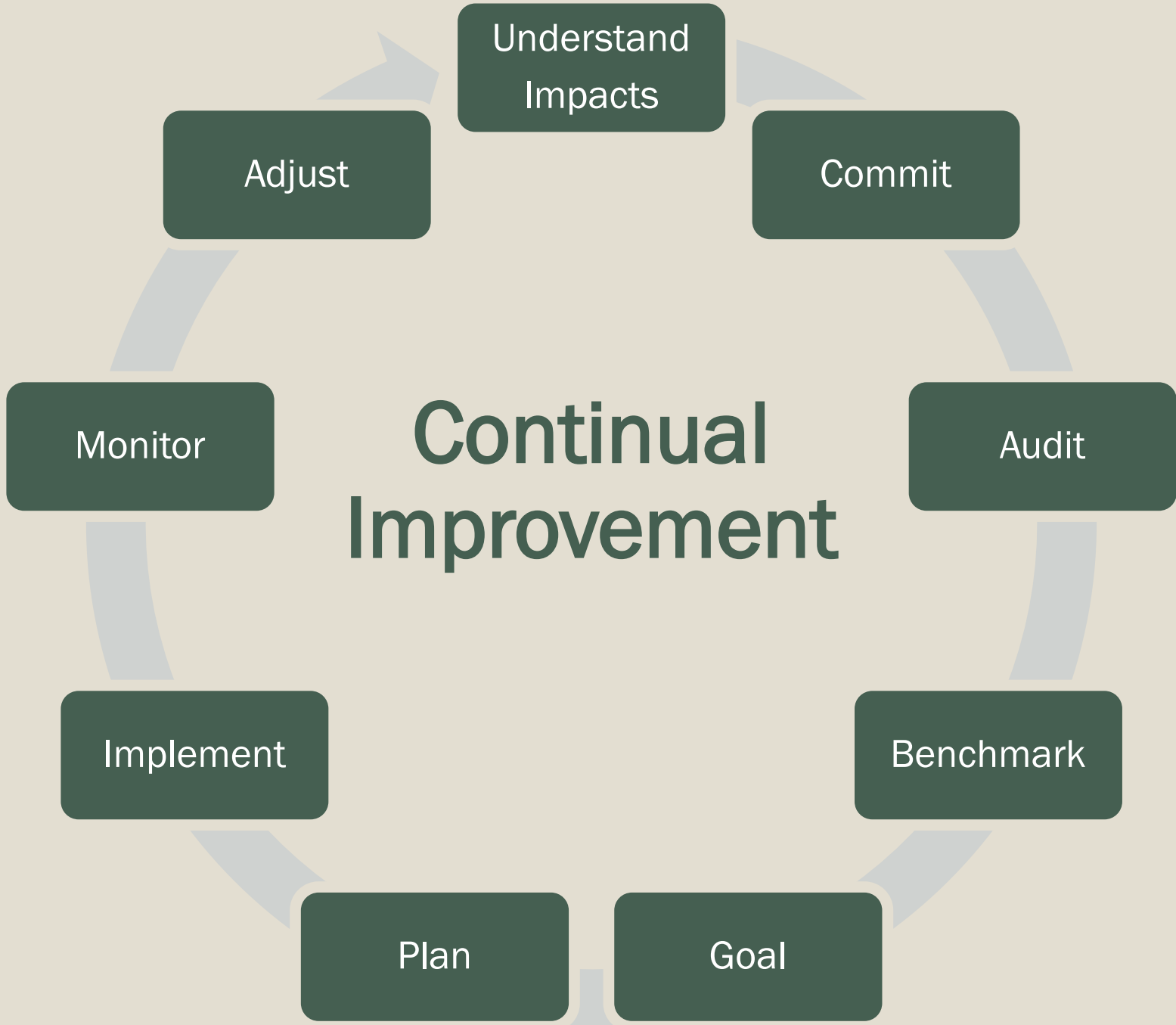
## 2016 Submission and Current Data

- STARS Gold – Total Score 73.03
- #23 Nationally in overall Score
- #1 in NYS and among SUNYs

## However...

- #7 in Academics
- #38 in Operations
- #109 in Planning & Administration
- #133 in Engagement

# Continual Improvement





# SUNY and New York State

Largest state agency in NY with the most buildings and most energy and resource use

## Executive Order 4 (E04)

- Green Procurement and Agency Sustainability Program policies within state agencies that reduce consumption of materials and energy and reduce potential impacts on public health and the environment

## Executive Order 88 (E088)

- *reduce the EUI in state buildings by at least 20% from a baseline 2010/2011*

## Reforming the Energy Vision (REV)

- *40% reduction in GHG emissions from 1990 levels*
- *50% of electricity from renewable sources*
- *23% reduction in building energy use from 2012 levels*

## SUNY Chancellor Johnson

- *100% of SUNY electricity from renewable sources*

# Voluntary Commitments

- Carbon Neutral Campus
  - *Reduce emissions as much as possible*
  - *Offsets remaining emissions*
- Resiliency Commitment
  - *Resilient to changing climate*
  - *Community engagement*
- AASHE STARS Platinum
  - *Currently four in the nation*
- Zero Waste Campus
  - *90% diversion rate*



# Energy Conservation

- Lighting upgrades
- HVAC and building controls
- Building scheduling
- Lucid real-time energy dashboard
- Recent energy audit...more planned
- Energy Master Plan
- Energy O&M Workforce Training
- Save money, energy, water, and other resources
- Reduce ESF carbon and ecological footprint



# Renewables

- Biomass Systems – Gateway, Heiberg, Wanakena
- Solar – Gateway Baker, Moon, Walters, Tully
- Future Options
  - *100% Renewable Electricity*
  - *Geothermal on the quad*
  - *Ranger school biomass system*
  - *Second CHP main campus*
  - *Energy Master Plan*
  - *Energy O&M Training*
  - *Curriculum integration*



# Gateway Center

- LEED Platinum efficiency and green features
- Sustainable materials and design
- Green roof with native plant communities
- Combined heat and power system
  - *High efficiency*
  - *Natural gas and woody biomass*
  - *Reduces purchased steam*
  - *Distributed generation*
- 2/3 of campus heating needs and 1/3 electric
- 20% reduction in carbon footprint – 2,500 MTOC<sub>2e</sub>/year



# Green Revolving Fund

- Student-driven initiative 2016
- Initial investment from ESF operating budget
- Investments in energy, water and money saving projects
- Portion of savings recouped into fund to repay initial cost
- Grow the fund over time
- Sustainable financing



# Sustainable Materials Management

- Single-stream recycling
- Paired trash and recycling bins
- Composting from Trailhead
- Sustainable purchasing and packaging
- Source reduction
- More later today



# Grounds

- Rain gardens and green infrastructure
- Native plants
- No-mow zones
- Bee-friendly campus
- Tree Campus USA
- Bicycle infrastructure
- Permeable pavement
- Forest properties
- Research plots and teaching labs





# Green Campus Initiative (GCI)





# EcoReps



EcoReps work in Centennial Hall to raise awareness about sustainability issues and encourage other students living in Centennial Hall to adopt a more environmentally and socially responsible lifestyle.

- Learn about Recycling
- Upcycling
- Energy Saving Initiatives
- Food
- and more!



# Garden at Lafayette Road

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- Vegetable Garden
- Fruit Tree Orchard
- Grapes and Berries
- Pollinator Garden
- Edible Forest/Permaculture Garden



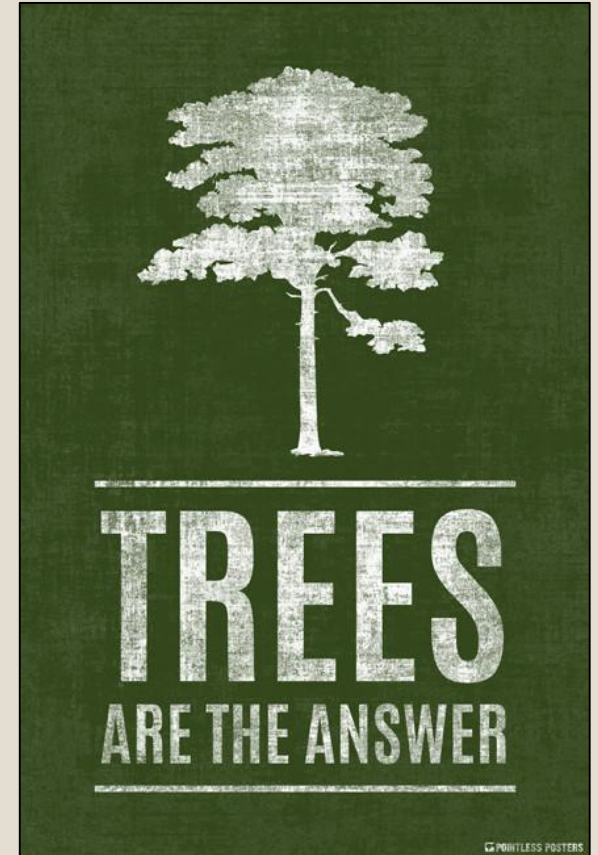
# Get Involved

- Steering Committee
  - *Energy*
  - *Materials*
  - *Food*
  - *Bikes and Transportation*
  - *Communication and Engagement*
  - *Land*
  - *Water*
- 30 person committee, meet once per semester
- 5-10 person groups, meet 2-4 times per semester
- Faculty, staff, students - seeking new members!



# Academics

- 55% of classes sustainability related/focus
- 45% of faculty do sustainability research
- Campus as a living lab
- Connections to local and state organizations
- Capstone and thesis projects



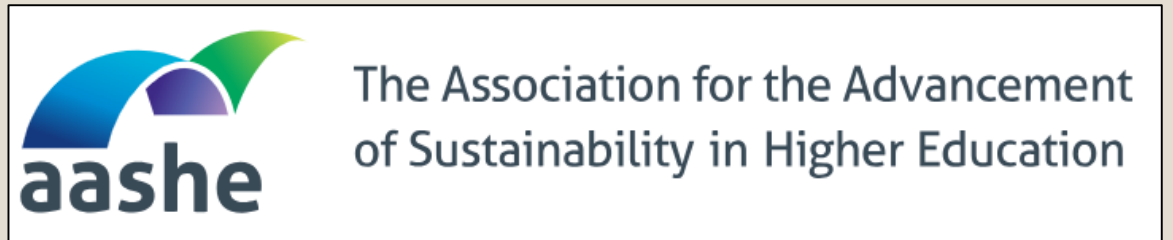
# Green Office Pledge

- Campus Conservation Nationals
- Door hangers available
- Peer-to-peer trainings available
- Lucid Building Energy Dashboard
- 5-15% reductions from occupant engagement



# Annual Events

- AASHE Conference (October)
- NYCSHE Conference (November)



- Attend and share
- Professional development opportunity
- Every area of higher education represented and relevant
- Transportation, meals and lodging provided



# Let us know!

- What are you passionate about?
- How can we improve?
- What have you noticed?
- Ideas, suggestions, feedback?
- Always happy to help or collaborate!





# Questions

Justin Heavey  
Sustainability Associate  
340 Illick Hall  
extension 6775

[jpheavey@esf.edu](mailto:jpheavey@esf.edu)

[sustainability@esf.edu](mailto:sustainability@esf.edu)

[www.esf.edu/sustainability](http://www.esf.edu/sustainability)