

Environmental Sustainability, Waste Reduction & Diversion at UConn

DEEP Solid Waste Advisory Committee

Fall 2017

Rich Miller, Director, Office of Environmental Policy



Sierra Club Coolest Schools

2012



1. UCal Davis
2. Georgia Institute of Technology
3. **Stanford University**
4. University of Washington

5. **UCONN**

6. University of New Hampshire
7. **Duke University**
8. **Yale University**
9. UCal Irvine
10. Appalachian State

2013



1. **UCONN**
2. Dickinson College
3. UCal Irvine
4. UCal Davis
5. **Cornell University**
6. Green Mountain College
7. **Stanford University**
8. Georgia Institute of Technology
9. American University
10. UCal Santa Barbara

2014



1. UCal Irvine
2. American University
3. Dickinson College
4. Loyola University Chicago
5. Lewis & Clark College
6. **Stanford University**
7. University of South Florida
8. Green Mountain College
9. **UCONN**
10. Georgia Institute of Technology

2015



1. UCal Irvine
2. UCal Davis
3. University of Wisconsin, Oshkosh
4. Colorado State University
5. Middlebury College
6. Oberlin College
7. Cal San Diego
8. **UCONN**
9. Lewis & Clark College
10. University of Washington

2016



1. College of the Atlantic
2. SUNY College of Env. Science & Forestry
3. UCal Irvine
4. Colby College
5. **Stanford University**
6. Arizona State University
7. Loyola University Chicago
8. UCal Davis
9. **UCONN**
10. Green Mountain College

UI Green Metric

2012



World University Ranking
UConn Ranked #3

1. University of Nottingham
(United Kingdom)
2. **Northeastern University**
(United States of America)
3. **UConn**
(United States of America)
4. University College Cork
(Ireland)
5. Linköping University
(Sweden)
6. **UCal Berkeley**
(United States of America)
7. **UCLA**
(United States of America)
8. **Washington University**
(United States of America)
9. **UCal Merced**
(United States of America)
10. University of Bath
(United Kingdom)

2013



World University Ranking
UConn Ranked #1

1. **UConn**
(United States of America)
2. University of Nottingham
(United Kingdom)
3. University College Cork
(Ireland)
4. **Northeastern University**
(United States of America)
5. University of Plymouth
(United Kingdom)
6. University de Sherbrooke
(Canada)
7. **UCLA**
(United States of America)
8. **University of N. Carolina**
(United States of America)
9. University of Bath
(United Kingdom)
10. **UCal Merced**
(United States of America)

2014



World University Ranking
UConn Ranked #7

1. University of Nottingham
(United Kingdom)
2. University College Cork
(Ireland)
3. Nottingham Trent Univ.
(United Kingdom)
4. **Ucal Davis**
(United States of America)
5. University of Oxford
(United Kingdom)
6. University of Bradford
(United Kingdom)
7. **UConn**
(United States of America)
8. U. fur Bodenkultur Wien
(Austria)
9. **UCal Berkeley**
(United States of America)
10. **Northeastern University**
(United States of America)

2015



World University Ranking
UConn Ranked #2

1. University of Nottingham
(United Kingdom)
2. **UConn**
(United States of America)
3. **Ucal Davis**
(United States of America)
4. University College Cork
(Ireland)
5. University of Oxford
(United Kingdom)
6. **Ucal Berkeley**
(United States of America)
7. **University of N. Carolina**
(United States of America)
8. University of Bradford
(United Kingdom)
9. University de Sherbrooke
(Canada)
10. **Northeastern University**
(United States of America)

2016



World University Ranking
UConn Ranked #4

1. **Ucal Davis**
(United States of America)
2. University of Nottingham
(United Kingdom)
3. Wageningen University
(Netherlands)
4. **UConn**
(United States of America)
5. University of Oxford
(United Kingdom)
6. U. fur Bodenkultur Wien
(Austria)
7. Keele University
(United Kingdom)
8. **Ucal Berkeley**
(United States of America)
9. Nottingham Trent Univ.
(United Kingdom)
10. Newcastle University
(United Kingdom)

THE CHRONICLE LIST

Top-Performing Institutions for Sustainability, 2016

The 2016 Sustainable Campus Index, published by the Association for the Advancement of Sustainability in Higher Education, or Aashe, recognizes top-performing colleges and universities in 17 distinct aspects of sustainability and over all, as measured by the association's Sustainability Tracking, Assessment & Rating System, known as Stars. Considered for these rankings were the 249 institutions that submitted a valid Stars Version 2 report between July 1, 2013, and June 30, 2016.

	Overall score	Scores in selected subcategories						
		Curriculum	Research	Campus engagement	Public engagement	Buildings	Energy	Food and dining
Doctoral institutions								
1. Colorado State U.	85.3	92.3%	100.0%	100.0%	97.9%	57.0%	18.4%	35.1%
2. Stanford U.	81.0	74.5%	100.0%	92.9%	84.0%	64.1%	46.5%	58.9%
3. U. of Connecticut	78.5	59.0%	100.0%	85.0%	81.6%	57.4%	28.9%	38.3%
4. U. of Washington	77.4	77.0%	79.7%	100.0%	71.0%	46.8%	4.0%	70.3%
5. American U.	75.4	62.9%	88.4%	90.3%	86.2%	59.4%	58.7%	28.3%
6. U. of British Columbia	75.0	62.7%	82.3%	100.0%	80.6%	48.8%	12.8%	58.7%
7. Oregon State U.	73.2	74.5%	88.7%	100.0%	74.1%	20.0%	21.2%	34.0%
8. State U. of New York College of Environmental Science and Forestry	73.0	90.0%	100.0%	56.1%	84.5%	39.4%	47.1%	40.9%
9. Emory U.	72.3	63.4%	80.4%	100.0%	84.3%	57.3%	13.2%	16.1%
10. U. of California at Santa Cruz	71.9	61.4%	84.6%	81.4%	67.0%	52.3%	8.4%	41.1%
Average score for all 108 participating doctoral institutions	59.7	55.6%	74.5%	76.1%	67.4%	35.8%	21.1%	29.6%
Master's institutions								
1. Appalachian State U.	77.2	95.6%	88.9%	100.0%	76.2%	59.4%	30.5%	22.0%
2. Chatham U.	75.8	84.2%	88.9%	96.3%	86.0%	36.0%	41.4%	51.3%
3. California State U. at Sacramento	72.2	79.2%	88.9%	100.0%	68.7%	59.4%	21.5%	16.9%
4. Thompson Rivers U. (British Columbia)	71.6	86.2%	86.6%	65.9%	77.9%	43.9%	20.6%	29.1%
5. Santa Clara U.	70.1	82.0%	88.9%	100.0%	55.0%	44.8%	45.9%	30.4%
6. Seattle U.	69.4	70.9%	80.8%	76.5%	83.5%	29.5%	32.4%	29.6%
7. U. of Wisconsin at Oshkosh	69.4	59.3%	72.6%	100.0%	86.2%	54.3%	41.1%	19.1%
8. Belmont U.	69.4	79.9%	94.4%	100.0%	64.0%	52.3%	46.6%	36.3%
9. California State U. at Northridge	68.9	79.4%	59.7%	99.5%	54.1%	40.6%	45.6%	30.3%
10. Florida Gulf Coast U.	68.7	88.5%	100.0%	81.8%	75.6%	26.6%	53.0%	52.0%
Average score for all 65 participating master's institutions	53.8	54.9%	61.1%	70.1%	57.9%	33.4%	26.9%	28.0%
Baccalaureate institutions								
1. Green Mountain College	76.5	99.5%	83.3%	80.2%	58.3%	39.8%	40.2%	41.3%
2. Colby College	75.7	78.7%	88.9%	100.0%	84.0%	24.9%	50.8%	25.7%
3. Sterling College	75.3	92.5%	77.8%	85.0%	86.4%	32.9%	32.8%	83.3%
4. Dickinson College	74.2	76.5%	98.4%	85.0%	78.0%	57.9%	36.4%	35.6%
5. Middlebury College	72.6	70.7%	82.7%	85.0%	67.3%	26.4%	53.5%	27.4%
6. U. of Minnesota at Morris	70.8	68.2%	96.3%	100.0%	65.5%	60.3%	32.8%	25.1%
7. Furman U.	69.3	88.2%	88.9%	100.0%	79.2%	25.9%	57.7%	25.7%
8. Pomona College	68.4	63.3%	76.9%	88.2%	70.3%	53.9%	11.9%	28.6%
9. Denison U.	67.4	70.5%	61.8%	84.0%	96.2%	40.3%	25.3%	62.6%
10. Wartburg College	67.2	84.0%	62.7%	100.0%	85.7%	50.0%	38.0%	35.1%
Average score for all 60 participating baccalaureate institutions	56.4	57.8%	64.9%	71.7%	63.1%	27.0%	30.1%	31.0%

WE ARE STILL IN

- Summer of 2017 Declaration demonstrating America's commitment to upholding Paris Agreement
 - Accelerate transition to a low carbon economy
 - Foster sustainable development
 - Cultivate future climate leaders
- Grand Coalition - Signed by more than 2,300 leaders from city halls, state houses, boardrooms, and college campuses, including University of Connecticut President Susan Herbst
- Represents 127 million Americans and \$6.2 trillion of the U.S. economy



CT Governor Malloy speaks at UConn's 2017 Earth Day Spring Fling

"UConn is deeply committed to supporting environmental health and sustainability in any way we can... We will steadfastly continue to do our part in contributing to global efforts to address climate change." – **Susan Herbst, President, University of Connecticut**



Solar Thermal Array on Roof of NextGen Dorm

President Herbst's Welcome Back Message

January 16, 2017

- Sustainability is an important UConn value
- Especially committed to addressing social, economic, environmental and public health issues of climate change
- Universities can drive a clean technology future, through:
 - Education research & outreach
 - Low-carbon operations
- UConn can lead by example
- Joined 220 college presidents in signing a climate action letter to U.S. President & Congress
- Announced UConn's 2020 Vision Plan ("Be the change...")



2020 Vision for Campus Sustainability & Climate Leadership

- 
- Energy & Buildings
 - Waste Reduction & Diversion
 - Outreach & Engagement
 - Water Resources
 - Food & Dining
 - Grounds, Open Space & Conservation Areas
 - Purchasing
 - Transportation

2020 Vision Plan Principles:

Concise - limited scope

Reinforce Prior Studies &

Commitments:

- Climate Action Plan (2010, 2012)
- Sustainability Framework Plan (2015)
- CAP Interim Assessment (2015)

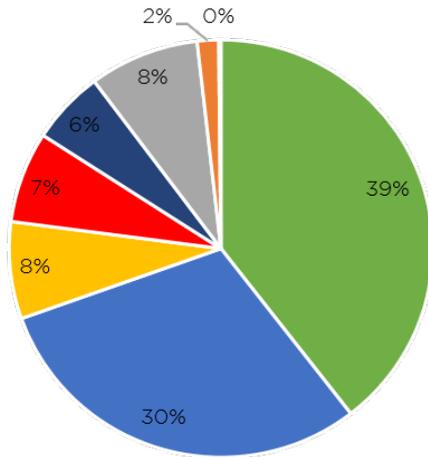
Measurable & Feasible

Emphasis on Climate Action

- GHG emissions reductions; leadership

Vision 2020 - Waste

DIVERSION BY CATEGORY



- Mixed Recycling
- Leaves and Trimmings
- Surplus Store - Public Sales
- Foodwaste Reduction
- Compost Facility
- Mattresses/Furniture Recycled
- Repurposed Material
- Give & Go

Increase waste diversion rate from 42% to

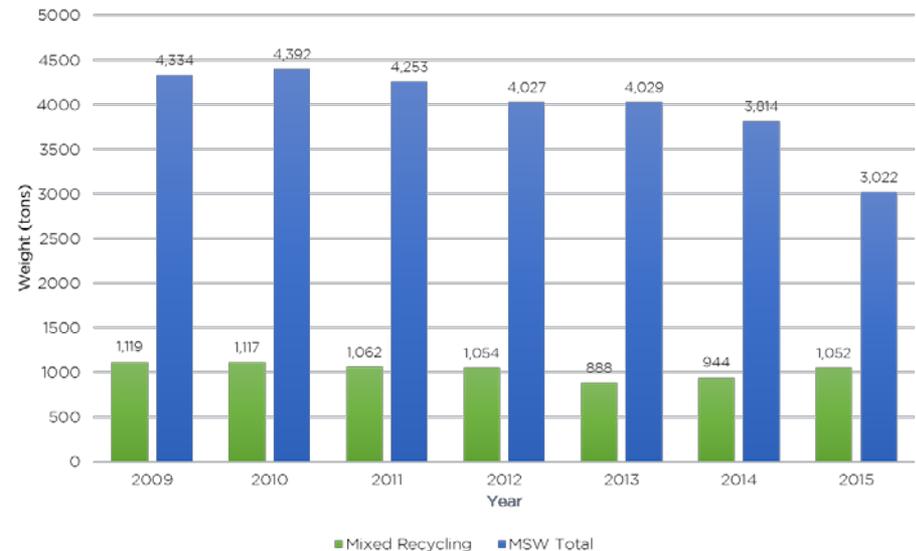
60%

33%



Reduction in total waste per person
360 lbs. pp/yr. → 240 lbs.

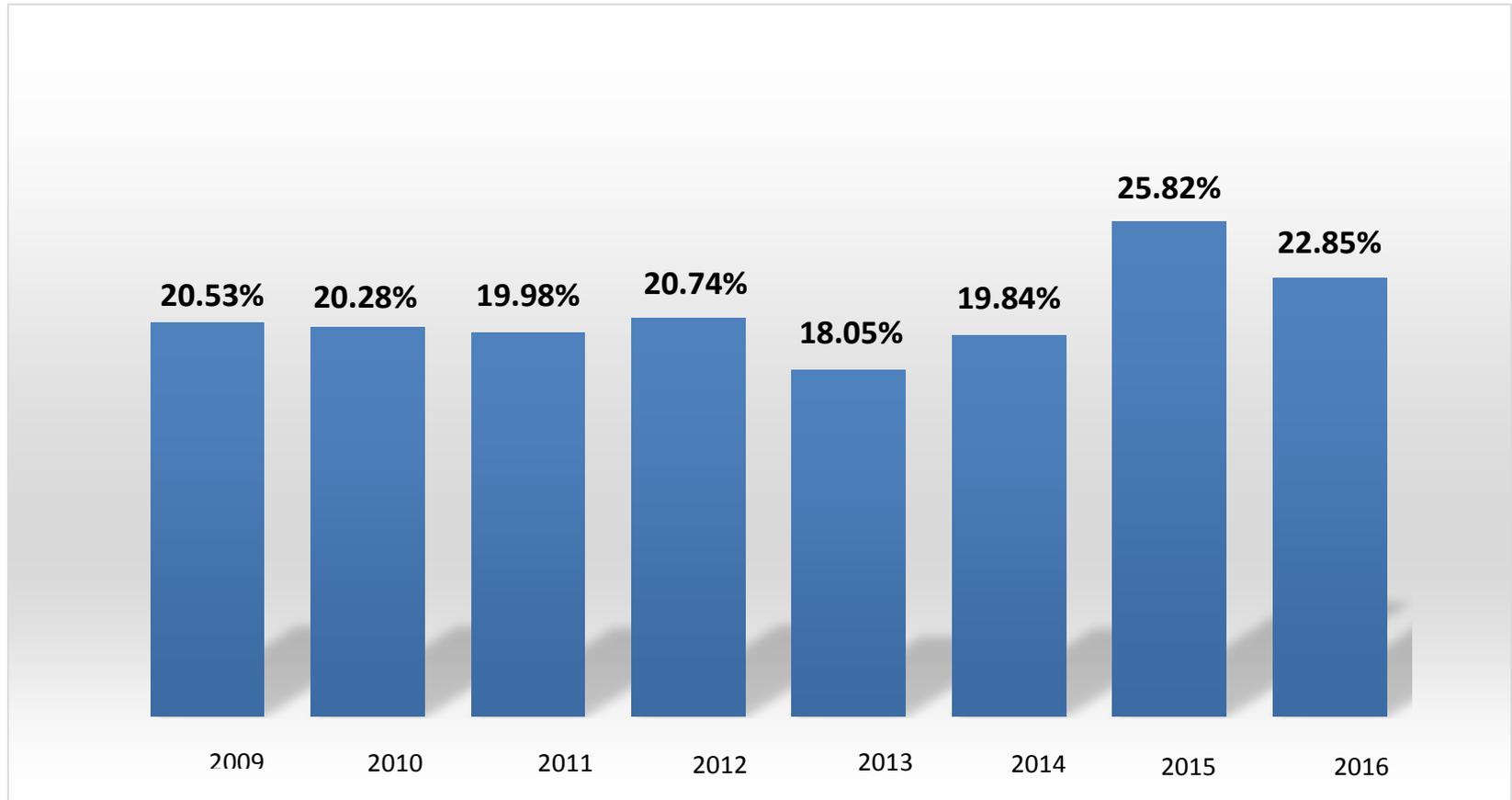
MIXED RECYCLING vs. MUNICIPAL SOLID WASTE



UConn Mixed Recycling vs. MSW



Mixed Recycling Rates



Recycling rates are down **3%** from last year.

Facilities Operations & Building Services

Mixed Recycling

Coupling/labeling of bins:

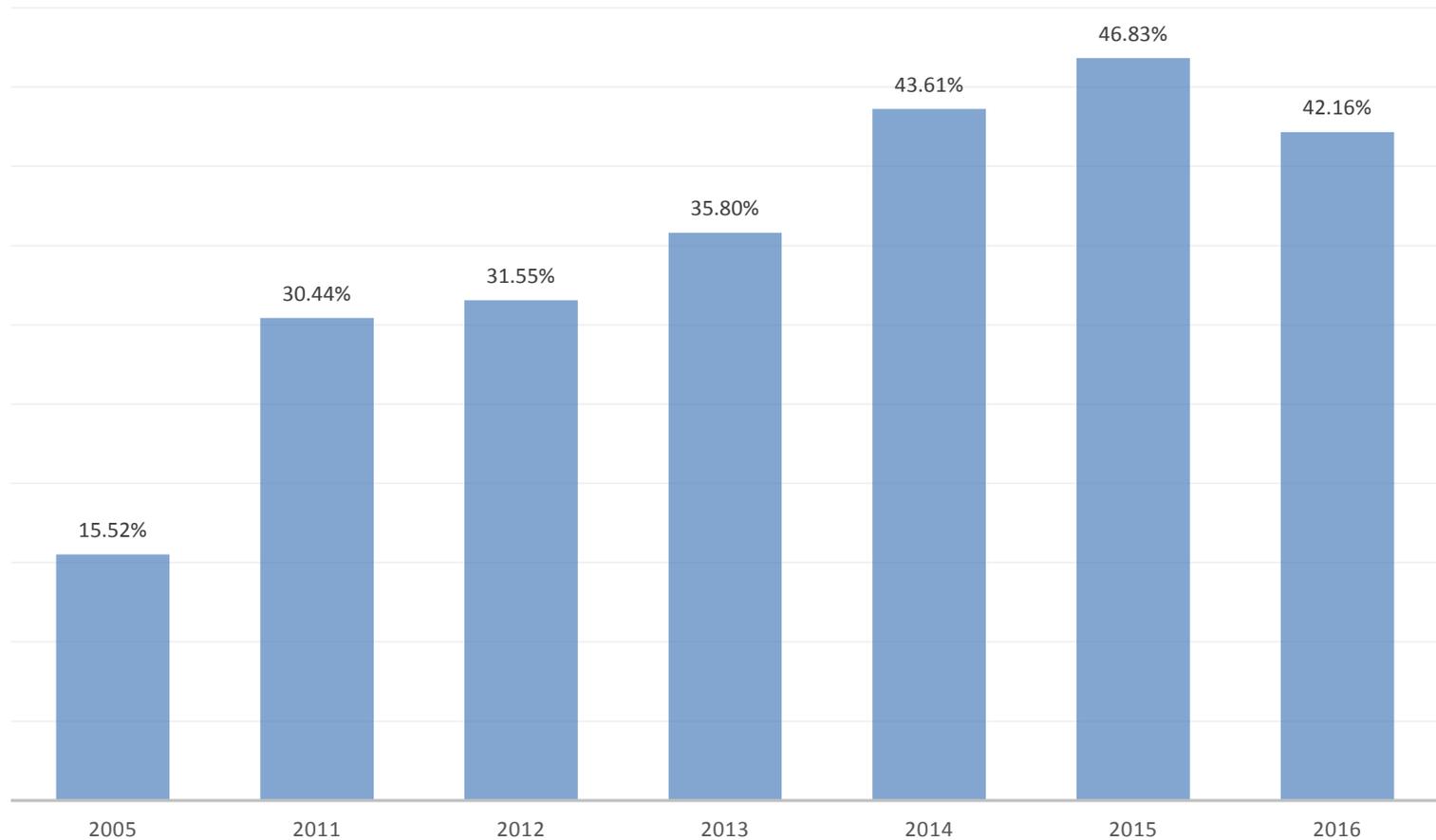
- 20 buildings in 2016, 1 million sq. ft. (10% of main campus)
- Plan for 2017-18: addtl 1 million SF
- NEW Pilot Program: centralized trash and recycling bins – no desk side bins in individual offices



2016 Waste Diversion Activities

2016 Diversion	Tonnage
Mixed Recycling	1026.93
Clean Fill	300
Compost Facility	800
Surplus Store	128
Give and Go	3.62
Leaves and Trimmings	200
eCorect – Food Waste	48.02
Mattresses/Furniture	21.5
Total Recycled/Reused	2528
2016 Diversion Rate:	42%

Diversion Rates



Dining Services: *Food Waste Reduction Systems*

ENVIRO PURE

- Modified system in place and functioning in Putnam.
- Testing underway at Waste Water Treatment Facility (WWTF)



somat[®]
Waste Reduction Technology

- eCorect dehydration systems being used to reduce food waste volume/weight at four dining halls:
 - Buckley
 - South
 - McMahan
 - Gelfenbien



Dining Services: *Food Waste Reduction Software*



- **Phood Solutions** (<http://phoodsolutions.com/>):
 - North
 - Buckley
 - Putnam
 - Whitney



- **FoodPro** (<http://www.foodpro.com/>):
 - McMahan
 - Gelfenbien
 - Northwest



- **LeanPath** (<http://www.leanpath.com/>):
 - South



Dining Services: *Commercial Anaerobic Digestion*



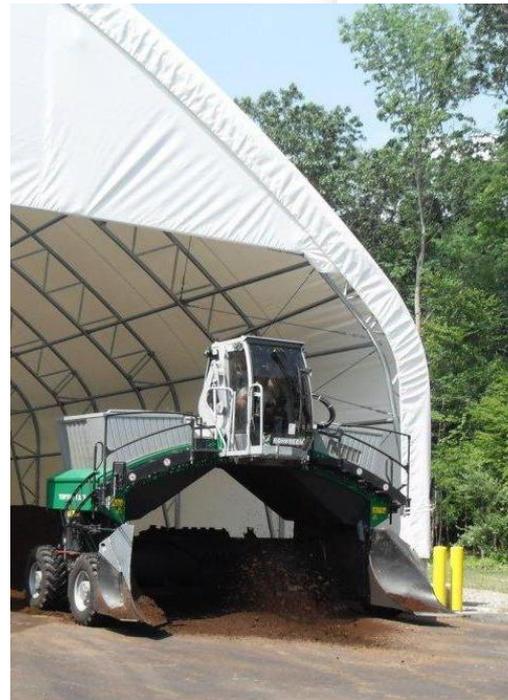
QUANTUM
B I O P O W E R



Agricultural Compost Facility

The UConn Compost Facility sells compost to the public twice a year at a competitive price

- Built and operating since 2010
- Produces between 800 and 1000 tons of compost every year.

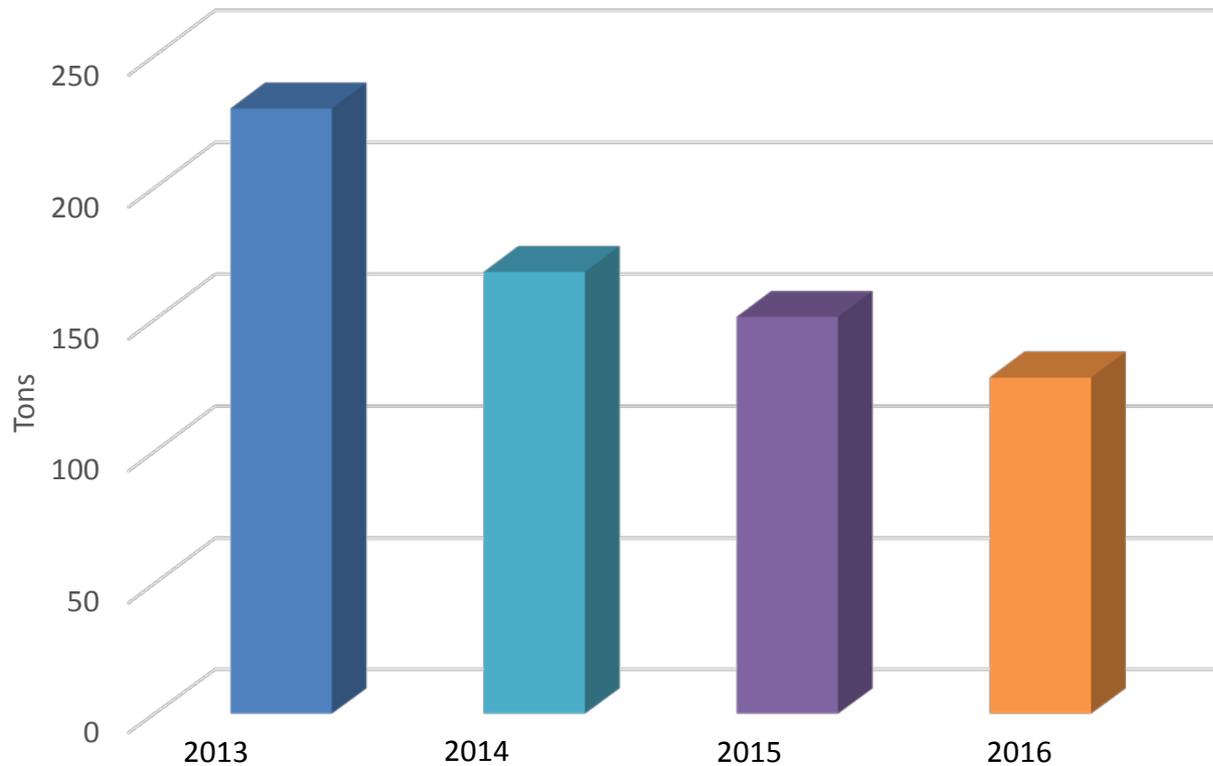


E-Waste

E-Waste bins are located in the Student Union, the UConn Bookstore, and the Homer Babbidge Library.



Waste Diverted via Surplus



Why has this number decreased in recent years?

Furniture and Mattress Recycling

Total number of mattresses recycled in 2016: **894**

An average twin XL mattress weighs: **48 lbs**

Mattress diversion: **21.5 tons**

Give and Go

GIVE → AND → GO

May 3rd - 6th, 2017



Don't Dump It. Donate It.

In 2016, Give and Go diverted 3.62 tons of furniture, clothing, lamps, books, appliances, etc.

What is the future of Give and Go?



Construction & Demolition Data, 2016

Reporting Field	Tonnage
Materials recycled, donated, or otherwise recovered	7,539.68
Materials landfilled or incinerated	2185.10
Total	9724.78
Percent Diversion	77.53%



Construction in 2016 included the renovation of the Monteith Building and Putnam Refectory, the construction of Next Gen Hall, and the ongoing work on the new Engineering and Science Building and the Innovation Partnership Building on Discovery Drive.

EcoHusky Shoe Drive

The EcoHusky Shoe Drive, which concluded on April 18th, collected almost **1,000 pairs** of shoes that will either be donated or recycled. This adds up to **about 625 lbs of shoes recycled!**

Thank you to Central Stores for the storage space!

The shoes collected will be added to the STARS Waste Minimization and Diversion credits for 2017.



Green Game Days

Football Green Game Day, *Fall 2016*

- Collected 1 ton of recyclables – set a new record
- First Fraternity Recycling Competition – congratulations to Alpha Sigma Phi for winning!

Basketball Green Game Days, *Spring 2017*

- First carbon neutral games at Gampel Pavilion
- Collected ~720 bottles



UConn Huskies @UConnHuskies · Feb 5

Today's @UConnWBB game is our first #CarbonFree game thanks to @UConnOEPI #GreenGameday



UConn Women's Hoops and UConn OEP





Student Engagement/Outreach



- EcoHusky, EcoHouse/Spring Valley Student Farm
- Sustainability-Related Student Clubs
- Outreach Events



Questions?

