Foothill College

Annual Sustainability Management Report

Report Card – 2015-2016

Incomplete items from last year's report or completed items that will have annual quantity changes have been carried forward for continuity. Status and new items from 2016 have been added to the bottom of each category. During fall 2016 through spring 2017 the Sustainability Master Plan will be rewritten to reflect changes identified in the 2016 Facilities Master Plan for sustainability focus, measurement and reporting.

Category	Year & Initiative	Completed	Incomplete
All	Stars Tracking System Description: Review STARS tracking system and determine if it is the right fit for Foothill. Findings: Colleges that used the STARS tracking system reported that it took one full-time staff member to upload and manage the data. We have reviewed the technical manual and should staffing become available, we would like to reexamine this system. Foothill is complying with many of the sections, and we may be able to adopt additional recommendations over time. 2016 No Change		X

Category	Year & Initiative	Completed	Incomplete
Civic Engagement	Social Entrepreneur Club– Y. Yukina (Faculty) was the advisor of this student club. The club initiated a survey and then tallied responses as to what the student body, administrators and faculty felt were the top three sustainability issues on Foothill campus. In addition, participants were asked about recycling services on campus, recycling practices at home and if they would be willing to participate in hands-on campus projects. Out of 272 responses, it clearly told us we need to communicate more about programs on campus and that there is student interest in participating in projects/events on campus. One of the suggestions was to provide a bike repair station, better bike racks with security	X	

	to deter bicycle theft. 2016 Energy Champions was another student group led by faculty member (B. Cormia). Energy Champions encourage students to be active participants In influencing human behavior and environmental efficiency both at the college and at home.	X	

Category	Year & Initiative	Completed	Incomplete
Hazardous & Solid Waste	Electronic Waste Calculations California Integrated Waste Management board's website lists data for Foothill's tonnage diverted in prior years. To view this information, access www.ciwmb.ca.gov/StateAgency/SOARD/Diversion.asp?ORGID=204&DOCID=3185&RYR=2006	X	

Year	Date Submitted	Total Handled		Total Shipped Domestic		Total Shipped Foreign	
2009		Count	Pound	Count	Pound	Count	Pound
2010	1/15/10	1706	0	1706	0	0	0
2011	1/24/11	263	0	263	0	0	0
2012	1/27/12	363	0	363	0	0	0
2013	1/31/13	564	0	564	0	0	0
2014	1/30/14	166	0	166	0	0	0
2015	1/28/15	705	0	705	0	0	0
2016	1/27/16	557	0	557	0	0	0

Source – K. Lauricella, Foothill-De Anza Environmental & Health Services Director

Category	Year & Initiative	Completed	Incomplete
Hazardous & Solid Waste	Current goal for diversion of waste is 70%. Review alternative to improve diversion rate to meet goal.		
2015	Out of 355 tons of trash, 154 tons were diverted from landfill. (43%)		X
2016	Out of 381 tons of trash, 143 tons were diverted from landfill. (37.5%)		X

Source – J. Zirelli, Recology 408) 588-7224, 1/17/17

Category	Year & Initiative	Completed	Incomplete
Hazardous & Solid Waste	Increase construction debris recycling through project specifications and construction practices. Original specifications called for 50 percent diversion; new specifications call for 60 percent.	X	

Year	Project Number & Name	Total Waste (Tons)	Recycled (Tons)	Recycled %
2009	101: Forum 5000	118	85	72%
	123D/226; PE, Campus Center Flooring Finish,	0.008	0.008	100%
	130A Utility Lids, Phase 5	31	17	55%
Year Total		**149**	**102**	68%
2010	100C/2008; Pool Tile, Plaster & Chlorination Replacement	62	62	100%
	134; Exterior Signage	1	1	100%
	142; Soccer, Softball & Baseball Complex	122	106	87%
	147 & 149; Horticulture & Choral Rehearsal Hall	225	225	100%
Year Total		**410**	**394**	96%
2011	100E; Krause Center for Innovation HVAC Upgrades	1.55	1.55	100%
	100G; Library Glulam Beams	2	2	100%
	109; PE Lab Space Remodel	9	8	88%
	110 & 112; B1900, 5500, 6200, 6400, 6500 Renovation	31	27	87%
	113; New Press Box	219	219	90%
	120; Smithwick Theatre HVAC	24	16	66%
	154; Lots 2-3 Photovoltaics	1044	1044	100%
	Physical Sciences & Engineering Center	96	84	87%
Year Total		**1426.55**	**1401.55**	**98%**
2012	120; Smithwick Theatre	10	7	70%
	160; Physical Sciences & Engineering Center	311	280	90%
Year Total		**321**	**287**	**89%**
2013	105; Convert to Learning Support Center, 160;	267	254	9%
	Physical Sciences & Engineering Center	33	31	94%
Year Total		**300**	**285**	**95%**

2014	105; Convert to Learning Support Center	76	70	92%
Year	801; Education Center- Demo Phase	17344	13925	80%
Total		**17420**	**13995**	**80%**
2015				
	801; Education Center	81.29	63.41	78%
	Library	73.72	53.71	72.85%
	105; B3600 Convert to Learning Support Center B5400 Roofing Pool Supply Room Parking & Circulation Fire Alarm Phase III Project, Gas Meter Relocation, Sewer Lining Project, Lot 1 Stair Replacement, Loop Road Resurfacing			
Year		**155.01**	**117.11**	**75.55%**
Total				
2016	801; Education Center	228.99	178.61	78.00%
	Library	3.27	2.38	72.85%
Year		**232.26**	**180.99**	**77.93%**
Total				

Source – M. Hohl, Project Executive, Gilbane Building Company

Category	Year & Initiative	Completed	Incomplete
Hazardous & Solid Waste	Confidential Paper: Foothill and District employ outside service to shred and recycle paper. The sustainability committee recommends a study group be formed to evaluate how much of this activity is used on our campus, what are various vendor rates, and is the shredded material used sustainably. Documents are taken to a local facility. Paper is sorted by color. After documents are shredded, they are processed into bales, which are then sent for further recycling into new paper products. The entire process is sustainable with very little waste.	X	

Year	Company	Totals
2010	Shred-It	$779.95
	United Shredding	$920.00
Total		**$1,699.95**
2011	Shred-It	$1276.69

	United Shredding	$1144.00
Total		**$2,420.69**
2012	Shred-It	$1875.53
Total		**$1,875.53**
2013	Shred-It	$2495.76
	Shred Ex	$ 150.00
	Sure Shred	$ 304.00
Total		**$2,949.76**
2014	Shred-It	$2788.12
	Shred Ex	$360.00
	Sure Shred	$608.00
Total		**$3,756.12**
2015	Shred It	$4875.95
	SureShred - $836	$ 836.00
Total		**$5,711.95**
2016	SureShred	$10650.40
	Shred It	$850.00
Total		**$11,500.40**

"Recycled" paper increases each year. Source – Foothill-De Anza Central Services Buyer John Pham.

Category	Year & Initiative	Completed	Incomplete
Hazardous & Solid Waste	Yard Waste Composting: Placed in separate dumpsters when not mulched into ground or spread onto hillsides. Mowers are all mulching mowers. The sustainability committee will look into this program further to define the sustainable efforts associated with it. The district will be encouraged to set up a composting program in coordination with the organic garden in Lot 3.	X	
	2015 Recology Garbage Company manages all pickup of green waste and provides mulch for use on campus, upon request.	X	
Hazardous & Solid Waste	Printed Course Catalogs: Each year, there are unused catalogs that are discarded into garbage cans. Currently, the catalogs are recycled. However, unused catalogs equal hundreds of pounds of wasted paper, ink labor, and GHG for delivery and removal.	X	

	Abandoning printed catalogs by 2016-2017. The colleges' marketing and communications office anticipates publishing online version of the course catalog.		

Year	Quantity of Catalogs Printed	+ or - %
2012-2013	1,700	
2013-2014	2,000	**+18%**
2014-2015	2,000	**+18%**
2015-2016	1,000 Goal which was met!	**-50%**

Source – A. Hanstein, Foothill Marketing and Public Relations Director

Category	Year & Initiative	Completed	Incomplete
Hazardous & Solid Waste	Food Grease: Recycled by Sequential Oils, (acquired Salinas Tallow). The Sustainability committee will look into this program to define the sustainable efforts associated with it.	X	
	The tallow is recycled into biofuel. Every three to four weeks, approximately a 50 gallon drum is picked up from the campus. This equates to 750 gallons per year x 5 years – 3,750 gallons. The campus is paid 35 cents per gallon resulting in $1,312.50 which goes to a student services budget.	X	
	2015 - Total gallons recycled: 340 gallons. The old vendor was acquired by a new company. Foothill is not being paid anything from this vendor. We must have 60 gallons of oil when they come for pickup; otherwise it costs the company money. Foothill averages 41 gallons per month. Source – Sequential Oils – Zack Williams.	X	
Hazardous & Solid Waste	Inkjet/Laser/Copier Toner Cartridges: The district has a recycling center through Office Depot, which picks up recyclable items at the same time a delivery is made. These items net Foothill a few cents for each cartridge.	X	
	Additionally, Foothill College has been sending used cartridges that meet the		

	requested criteria to an online company. The recycling activity has a value of the following cartridges. 2014 $333.00 2015 $75.00 2016 $151.40 This funding is deposited to the Foundation Bike Path account, to augment bicycle riders through better paths, additional bike racks, etc. The reimbursement amount could go down in the future due to proposed managed print services.		

Category	Year & Initiative	Completed	Incomplete
Transportation, Energy Conservation & CO2 Reduction	Baseline for transportation and energy use. 1. Accurately track & analyze energy use intensity. This will be a recommendation for the new Energy Manager, which will require effort to link our on-site generation data with our utility demand data.		X
	2. Work with students to better track transportation. This activity is scheduled for spring 2017.		X
Transportation, Energy Conservation & CO2 Reduction	Interactive educational kiosk on campus for photovoltaic results to display real-time performance of the solar system. 1. Dashboards that monitor building utilities were designed as part of a science-on-display activity at the new Physical Sciences & Engineering Center, completed December 2013. However, it was not implemented by the builder or the district. A Foothill faculty member ordered Fluke Power Loggers to record data.		X
	2. Upon consideration, this will be part of a different energy management function.		X
Transportation, Energy Conservatio	Energy audits completed for all campus buildings and deficiencies identified for correction.		X

n & CO2 Reduction			
Transportation, Energy Conservation & CO2 Reduction	1MKw Challenge – As part of the challenge, a grant was awarded to Foothill. The goal was to reduce Foothill power consumption by 5 percent through student participation. The end goal is to have students apply what they learn on campus, at home and in their communities. Grand funds were used to purchase the Gridium software system ($5,000). The software has been helpful in reviewing campus energy trends, Mondays through Sundays. The software displays Foothill energy loads every 15 minutes, as well as, campus base load and our highs and lows.		
	2015 The Gridium system was purchased and all three campuses are linked.	X	
Transportation, Energy Conservation & CO2 Reduction	2015 Fluke loggers -The college is developing a Request For Information to inform a specification for an energy management information system, which will part of a future bond measure.		X
Transportation, Energy Conservation & CO2 Reduction	Smart Office Technology – Retrofitting classrooms with smart technology began in 2007, which included integrated wireless networking, and projector and audio/video capture technology in conference room and meeting areas. The goal was twofold; capture meetings/presentations for later playback and facilitate participation by a broader audience through real-time teleconference capabilities. This allows staff to telecommute, reducing GHG emissions. Foothill will explore purchasing energy that combines lower-carbon content through an enhanced renewable energy portfolio with a remote renewable energy provider and carbon offsets.		
	2015 All renovations are completed, and all such measures are done.	X	
Transportati	Invest in Carbon Offsets: Foothill will work	X	

on, Energy Conservation & CO2 Reduction	with PG&E to develop a plan to offset our delivered electricity regardless of contract source. Our intention is to evaluate Climate Smart offsets as part of a bundled energy solution, which may include lower-carbon content. Given the size of the California Community Colleges system and service territory of PG&E, a combination of California offsets (carbon-sequestering projects maintained in California) and renewable energy (RE) added to California's installed base, purchased as a renewable energy credit might be the most affordable and cost-effective way for colleges and universities to offset GHGs in a protracted and restricted-budget environment.		
Transportation, Energy Conservation & CO2 Reduction	In 20110 Foothill College brought an additional 1 MW of solar PV into production, which now produces nearly 1.7 M kWh of electricity a year, offsetting the largest part of our afternoon demand curve and reducing our GHG emissions by nearly 1,00 tons annually. Together all three solar PV array locations (100KW, 440KW, and 1 MW) produce nearly 2.5 M kWh of emission free electricity, reducing fossil fuel generated electricity by 30% of our total annual demand, and saving the College $300K in annual electrical costs. The solar PV also provides a learning opportunity for our students to study distributed generation energy systems. The solar PV is also the foundation for more complex energy management systems. Foothill College is also recognized as a leader in deploying energy technology, and has attracted the interest of the surrounding technology community for collaboration and partnering in forward looking energy projects.		
	2015 The District has attempted through the past year to hire an energy manager, without success. This full-time position is critical to meet the above initiatives as these are driven by the District and not Foothill College. However, we feel it is important to monitor progress through this report.		X

	2015 The district is looking at opportunities for advanced energy systems, and requires technical expertise in creating the technical specification. This will be a recommendation for capital investments the next bond measure.		X

Category	Year & Initiative	Completed	Incomplete
Water-Use reduction & Control	Campus water features will be reduced through the Measure C Site Improvement Project. Two of the existing decorative fountains (located in the Library Quad and adjacent to Room 1501) will be renovated and the third (Iocated in the Administration Building patio) will be converted to a planter that features drought-tolerant plants. Design and drawings are being developed by grounds personnel for the planter.		X
	2015 – California's drought forced a number of emergency measures. Grass and landscaping was no longer watered, old trees were removed, planted drought tolerant-native plants and all leaks were repaired.	X	
Water-Use reduction & Control	Water Use reduction – When compared to 2013 levels, consumption in 2015 reflects a 70% reduction. When compared to 2014, it is a 62% reduction. The state government mandated a 20% reduction. This is due to repair of water line leaks, and a reduction in irrigation. The campus employed "Brown is the new green" signs to educate the campus community. (See next photo next page.)	X	
Water-Use reduction & Control	Each spring, the grounds department will add 3-5 inches of mulch in planting beds to minimize irrigation evaporation. 2015 – Some locations were mulched, many were not. Mulch is delivered by the garbage company at the campus request. This is an ongoing process as California's water supply is uncertain and manpower is short.	X	
Water-Use	2015 – Restroom fixtures were replaced with	X	

reduction & Control	low-flow types and noted below.		

Building	Location	# of Toilets	# of Urinals	Completion Date
D160		6	0	April 1, 2016
D100		3	0	April 1, 2016
1000	Downstairs (lower level)	4	1	April 1, 2016
2800	Men's Room	7	10	April 1, 2016
2800	Women's Room	12	0	April 1, 2016
2800	Pool Deck	3	2	April 1, 2016
3000		6	2	April 1, 2016
3500		8	4	April 1, 2016
3600		3	1	April 1, 2016
4000		10	3	April 1, 2016
4100		6	2	April 1, 2016
5200		6	2	April 1, 2016
5900		6	2	April 1, 2016
5900	Staff	6	3	April 1, 2016
6000		8	4	April 1, 2016
6200		1	0	April 1, 2016
Total		**95**	**36**	

Replacement of fixtures contributed to the 50% overall water savings on the campus. Source – S. Kitchen, Executive Director, Facilities, Operations & Construction Management

Category	Year & Initiative	Completed	Incomplete
Green Procurement	Review process and procedures annually. Completed in 2014. 2015 On-going priority which requires the correct staffing.	X	 X

Category	Year & Initiative	Completed	Incomplete
Green Building	Foothill will install occupancy sensors in all new and renovated buildings to meet Title 24 requirement. The sustainability committee will be tasked with identifying existing rooms without the sensors and a plan will be developed with district plant services. 2015 New buildings do have occupancy		 X

	sensors. However, a plan for rooms without occupancy sensors has not been developed. This is a recommendation for capital improvement for the next bond.		
Green Building	Electric hand-dryers in restrooms: As renovations occur and new buildings are built, electric hand-dryers are installed to reduce the amount of paper towels used. This eliminates the paper manufacturing, bleaching process and delivery, thereby reducing waste and GHG. 2015 The Associated Students of Foothill College requested hand dryers be placed in all restrooms. According to the article Disadvantages of Hand Dryers, by Lee Morgan, air driven hand dryers both increase bacteria on the user and spread it to other washroom occupants. In addition, the noise can be intolerable for adjacent building occupants. The Sustainability Committee does not recommend installing additional hand dryers.		X