

FY2017 Sustainability Report and Goals

By Sue Dorward, Sustainability & Energy Coordinator

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The purpose of this document is report sustainability activities from FY2017 goals for FY2018, within the context of the Sustainability Strategy Plan. Comments have been added to the strategic plan, **green for FY2017 activities** and **red for FY2018 goals**.

Greenhouse Gas Emissions Reduction

1. Attain carbon neutrality as of FY17 and maintain this moving forward, through a mixture of energy upgrades, renewable energy credits (RECs), and carbon offsets.¹ - **We are on track for carbon neutrality.**
 - a. Review energy audits to identify desirable energy efficiency upgrades.
 - **Review in progress as of 6/14/17.**
 - b. Upgrade or replace older HVAC equipment. *[Need info from Joe D.]*
 - c. Convert lighting to LED.
 - **465 fixtures and bulbs were installed: Phys Ed hallways (39 fixtures), Hunterdon 2 (24), A36 and SC215 (42), Science Bathrooms (16), Art Gallery (73), Library stacks 2 (26), SC220 (24), Exterior lighting (Slim 12s) (38), Bateman-Lot 5 Walkway (10), Lot 4 (12), Training room and Women's Visitors Locker Room (19), College Center basement (100), Science lecture hall (42)**
 - **Parking lot lighting RFP created.**
 - **300 parking lot lighting fixtures to be installed.**
 - **Rebate applications have been approved for 381 fixtures: Hunterdon/Somerset (268), Bateman Mechanical Room and West Stairs (10), A38 (16), E109 roof and men's basement locker room (14), A0-18 CTLS (51), ATCC Downlights Canopy and Faculty Lot 2 (22).**
 - **Other potential projects are Testing hallway, ATCC, and Cafeteria 2nd floor.**
 - d. Roll out the building management system to remaining locations.
 - **Rolled out to Science Addition and Workforce.**
 - **Roll out to remaining rooms in Somerset and Hunterdon.**
 - e. Perform a greenhouse gas inventory at least every 3 years (from FY17).
 - **Greenhouse gas report for FY17 will be done in August/September 2017.**
 - f. Create a Climate Action Plan to meet the above goals.
 - **May do this for STARS Gold rating.**

¹ RVCC committed to a 60% reduction by 2020 as part of the White House-sponsored American Campuses Act on Climate Pledge (2015).

2. Reduce reliance on REC and carbon offset purchases as new technologies and alternative energy become available.
3. Reduce carbon emissions of vehicle fleet (including Security fleet) over time by purchasing electric or alternative energy carts and vehicles.
4. Identify some campus woods to be managed for carbon sequestration.
5. Support reduction of transportation emissions by supporting and advocating for public transportation, carpooling, and alternative fuel vehicles.
 - a. Somerset County added a third bus route (CAT-3) and extended the routes of the others to include North Plainfield and New Brunswick.
 - b. Environmental Science interns have been investigating carpooling programs.
 - c. Create or license a RVCC carpooling app.
6. Perform energy audits at least every 10 years (2020).
7. Work with Facilities, IT, and Media Services to reduce plug load from equipment and vending machines.
8. Install building-level utility (electricity, water, gas) meters where possible.
 - a. Workforce has its own electricity and gas meters.
9. Other – Pepsi Co installed new vending machines that are more energy efficient. New machines consume 63% less energy.

Resource Conservation

1. Reduce water usage by 10% by 2020. - \$75,000 in bathroom upgrades are planned.
 - a. Locate and fix underground leaks.
 - i. Investigating leak near Library that's exiting outflow into stream.
 - ii. Fix leak near Library.
 - b. Replace non-metered faucets.
 - i. Develop a schedule.
 - c. Install waterless urinals.
 - i. Develop a schedule.
 - d. Install low-flow shower heads (with meters/timers?).
2. Develop and follow an Environmental Purchasing Policy, to be followed by Purchasing, departments, and the food service vendor.
 - a. Obtained and reviewed sample EPPs, got feedback from Brian.
3. Develop and follow a Green Cleaning Policy.
4. Develop/document and follow an Indoor Air Quality program.
 - a. Comply with ASHRAE 55 for the Bateman Center, Science Addition, and Workforce building. This standard is focused on providing thermal comfort for the majority of occupants. Apply for the associated LEED point.
5. Work toward sustainability certifications (eg, LEED, WELL) for existing buildings.
10. Protect and restore campus woods and stream buffers. - The Environmental Club created two deer enclosures. Warm season grasses were seeded between Workforce and the Lamington Road entrance (to provide habitat for grassland birds).

- a. Implement deer management plan.
 - i. Plan drafted.
 - ii. Implement plan.
6. Replace water fountains with bottle filling stations.
 - a. Develop a schedule.
7. Address water quality in the campus pond and streams.
 - a. No mow areas along stream and pond are growing in nicely.
 - b. Emilie Stander is evaluating whether upstream nitrogen loading is causing our algae blooms.
8. Maintain and create green roofs and rain gardens.
 - a. An Environmental Science intern is working on a green roof for the Bateman Center patio.
 - b. Build Bateman green roof.
9. Incorporate vegetative swales and pervious cover in parking lots.
10. Work with the food service vendor to reduce waste/trash and provide more sustainable dining options. (See AASHE STARS for possible certifications.)
11. Maintain River Friendly certification (renewed every 3 years starting 2016).
12. Certify the campus as a Tree Campus USA.
13. Maintain commitment to build to LEED Silver standards (or similar).
 - a. Science Addition and Workforce were designed to be LEED Silver.
14. Other
 - a. RVCC has two new clothing recycling bins.
 - b. RVCC has been recognized by the US Environmental Protection Agency for reducing food waste. RVCC is the only NJ institution of higher education, and one of only two such institutions in EPA Region 2, to be recognized as regional award winners in the Food Recovery Challenge. In 2015, the College donated 4,000 lbs. of food and composted over 8,000 lbs. of food waste.
 - c. Library books were donated/recycled.
 - d. Science cabinets were repurposed.
 - e. Volunteers planted pollinator-friendly plants in 8 gardens on campus as part of the Campus Cares program.
 - f. An intern is working on a proposal for a new on-site composter (state grant for half).
 - g. Contact the new Whole Foods in Bridgewater regarding bottle cap recycling. (December)

Campus as a Living Lab

1. Support and propose academic projects that enhance sustainability of the campus or promote the adoption of sustainable practices.
 - a. Environmental Science students planted 8 native trees along Campus Drive and helped plant the Enabling Garden.

- b. Environmental Science interns worked on new trash/recycling bins in offices and carpooling in summer 2016. Interns took water samples of the stream leading to the pond, to have benchmark data for determining where nitrogen may be entering the stream and contributing to duckweed growth in the pond.
- c. A Computer Science student created a farmbot, which is installed next to the Science building.
- d. Environmental Science interns are working on campus-wide trash/recycling bin rollout, a carpooling app, a new composter, the organic garden, and collecting summer water samples from the stream leading to the pond.

New areas [AASHE] would be:

- e. Air & Climate
- f. Purchasing
- g. Coordination, Planning and Governance
- h. Diversity & Affordability
 - i. The Nursing program proposed a food pantry.
 - ii. Implement food pantry.
- i. Health, Wellbeing & Work
- j. Public Engagement
 - i. Members of Somerset County Business Partnership donated trees and the public was invited to Earth Week events, including an electric car show. An Eagle Scout, a Girl Scout Troop, and Branchburg Rotary participated in creating the Enabling Garden.

Civic Engagement

1. Partner with community organizations (eg, Duke Farms, Sustainable Somerset, Grid Alternatives) to promote sustainability.
 - a. Partnered with Sustainable Somerset and Raritan River Week for Earth Week events.
 - b. Planning a green jobs panel (October) and a green organization fair (Earth Week).
 - c. Look into Solar Spring Break (a program for students to install solar panels in low income communities) with Grid Alternatives.
2. Form a transformative partnership that “catalyzes community resiliency and local/regional sustainability by simultaneously supporting social equity and wellbeing, economic prosperity, and ecological health on a community or regional scale (e.g. “transition” projects and partnerships focused on community adaptation to climate change).” [AASHE]
3. Support legislation that promotes sustainability.
4. “Advocate for state and/or local sustainability and clean energy public policy (e.g., building energy code changes, net metering programs) that, if implemented, would create jobs.” [SEED]
 - a. President McDonough signed on to a [letter](#) to the Trump administration and members of Congress (sponsored by Second Nature) to support participation in the Paris Agreement, climate research, and investments in a low carbon economy.

- b. Sign on to [“We are still in” letter](#) supporting the Paris agreement, recommended by AASHE
- 5. Host events for the community to observe and learn about campus sustainability practices.
 - a. In July, Somerset County Green Leadership Hub meeting attendees (who are on municipal green teams) will do a “green scavenger hunt” to learn about green features of campus. Brian O'Rourke will speak at the event.
- 6. “Engage students to serve as educators and ambassadors to the community on sustainability concepts, principles, and practices.” [SEED]
- 7. Other
 - a. The Environmental Justice club hosted "From Standing Rock to PennEast: The Impact of oil and gas pipelines on our lives", during which several local environmental experts spoke.
 - b. Students participated in a stream cleanup on the Delaware River. 49 volunteers removed more than 5,000 pieces of trash and recyclables.
 - c. Students installed beach protection fencing at Island Beach State Park.

Education

- 1. Work with the Center for Teaching, Learning, and Scholarship to facilitate incorporating sustainability topics into existing courses, support development of new sustainability courses, and provide professional development opportunities around sustainability. Institutional support may take the form of funding, training, release time, etc. [AASHE, SEED]
 - a. Sustainability Committee to develop a “Sustainability Across the Curriculum” breakout session for All College Day (August or January).
 - b. An intern is looking into developing an Environmental Literacy course.
- 2. Create student and/or employee sustainability educators programs for peer-to-peer education. [AASHE]
 - a. Intern Deidre Supple met with Science and Engineering employees to explain the new dual trash/recycling bins for offices.
 - b. She is also looking into developing a Green Ambassadors program.
- 3. Other
 - a. In late June/early July 2017, RVCC is offering a new study abroad course “Ecology Experience Abroad: Atlantic Rainforest, Brazil”. Students learn about tropical ecology and conservation, followed by a 12 day trip to Brazil, staying at a research station in the Atlantic Rainforest, a global biodiversity hotspot, in the state of Bahia. (There was a similar trip in 2016, but it was not part of a course.)
 - b. Engineering students created a self-powered illuminated umbrella and a flashlight powered by body heat.
 - c. Paul Flor is designing an energy management program about high-efficiency HVAC and building control systems.
 - d. Interns are developing a sustainability component for students to present at ROARS student orientations.

Governance

1. The Sustainability Coordinator will submit annual sustainability reports to RVCC's President and VP Finance, to provide accountability for following the Sustainability Strategic Plan. Annually, this strategic plan will be used to create an implementation plan for the upcoming fiscal year, to be reviewed and approved by the administration and used in the budgeting process. Significant updates to this strategic plan will be conveyed to the administration for approval.
2. RVCC's President will "raise the visibility of climate change and sustainability efforts." RVCC leadership will "lead by example and speak publicly on climate change solutions about how to take concrete action to scale energy efficiency, convey social cost of carbon and raise issues like divestment on campus (i.e. op eds, public speeches, panels)." [AACC Climate Leadership Award]
 - a. RVCC signed on to a [letter](#) to the Trump Administration and Congress (sponsored by USGBC) asking them to reverse proposed deep cuts and/or elimination for several key programs, including EnergyStar and WaterSense.
 - b. President McDonough signed on to Second Nature's letter to the Trump administration. See "Campus Engagement" item 4 above.
 - c. VP Finance John Trojan spoke at RVCC's Earth Week Keynote event (about climate change in NJ) about RVCC's new LEED Silver buildings and efforts to reduce the campus's carbon footprint.
3. "Appoint key, high-level decision-makers and commit resources to coordinate and integrate sustainability and green workforce development efforts within the college." [SEED]
4. With HR, review AASHE STARS guidelines for compensation and employee assessment. [AASHE]

Other

1. Review relevant competencies and criteria from [SEED's Green Genome program](#) with Workforce Development, Career Services, and K-12 programs to identify areas to work on.
2. Consult with Facilities, Workforce Development, Nursing and Rutgers Adaptation Alliance to identify facilities upgrades and training opportunities to increase climate resilience (energy, emergency response, urban planning/green infrastructure, health). See [SEED Guide to Resiliency](#).
3. Maintain AASHE STARS rating (renew every three years from April 2015).
 - a. **Will work on application to submit April 2018. Trying for Gold rating.**
4. **Apply for AACC Climate Leadership Award in December 2017. (Last year it was a \$10,000 award.) It requires President McDonough to have "specific engagement and efforts ... in raising the visibility of climate change and sustainability efforts."**

References/resources

[RVCC's MOU with the EPA](#)

AASHE STARS – [RVCC's report](#), [Sustainability Hub](#), [Technical Manual](#), [Top Schools](#)

SEED - [Green Genome Framework](#), [Guide to Resiliency](#)

[Princeton Sustainability Plan](#)

[TCNJ Climate Action Plan](#)



Facilities & Grounds Department
P. O. Box 3300 • Somerville, New Jersey 08876-1265
ph: 908-526-1200 • fax: 908-526-0306

[AACC Climate Leadership Award](#)

[ASU Green Cleaning Award](#)

2010 Energy Audits