

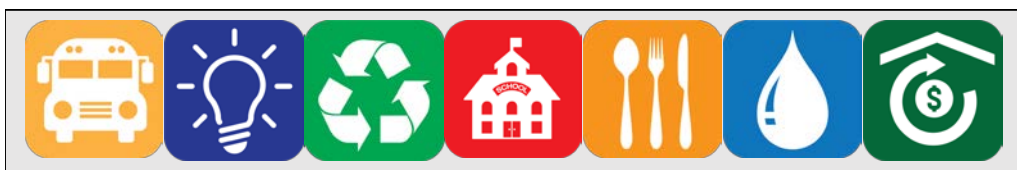


Orange County Public Schools



SUSTAINABILITY IMPACT REPORT

SCHOOL YEAR 2018-2019



SUSTAINABILITY IMPACT REPORT

ORANGE COUNTY PUBLIC SCHOOLS

Commitment to Sustainability

Sustainability is a framework to balance economic, environmental and social responsibility to ensure our schools are providing a positive impact in the community by reducing operating costs through the conservation of resources while equitably serving all students.

The Orange County Public Schools (OCPS) 2015 Strategic Plan includes goals for Efficient Operations and a Safe Learning and Working Environment. The five sustainability goals to increase recycling and green schools and to conserve energy, water and diesel fuel align with these District goals.

This report shares the environmental, economic and social impact resulting from Districtwide sustainability initiatives and accomplishments, highlighting the District's commitment to sustainability.

TABLE OF CONTENTS

Recycling.....	2
Energy	5
Water	7
Transportation	8
Green Schools Recognition Program	9
District Initiatives.....	13

DISTRICT PROFILE

- Ninth (9th) largest school district in the nation
 - Fourth (4th) largest school district in Florida
 - 211,685 students
 - 32,062,857 square feet of facilities
 - 233,150 meals served daily
 - 908 school buses traveling over 100,000 miles daily
 - 25,145 employees
-
- **196 Schools**
 - **124 Elementary**
 - **37 Middle**
 - **7 K-8**
 - **20 High**
 - **8 Exceptional**

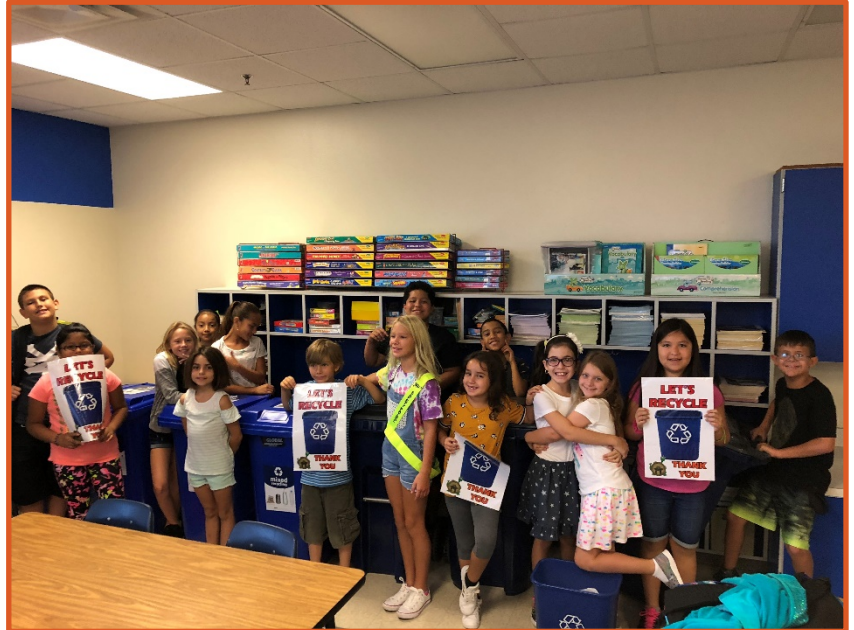
Recycling

SUSTAINABILITY GOAL 1: Recycle 65% of the total waste stream in 2018-2019.

OCPS obtained a 54% recycling rate this year, a 7% reduction over the previous year. The greatest decline in recycling was in construction. Last year, 142 million pounds were recycled from construction projects vs. 17 million pounds this year.



Audubon K8 Middle School Students Collecting Recycling



Dillard Street Elementary School Safety Patrols Create Recycling Posters

Recycling Audit Program

The Recycling Audit Program is designed to ensure all schools and facilities are recycling correctly. Recycling Audits determine the needs at these locations then provide resources and support to assist staff and students to improve recycling efforts.



Sustainability Specialist Delivering Recycling Bins on a Follow-Up Audit

Each quarter, twenty (20) locations are audited three times by the Sustainability Specialist. In the first month of the quarter an initial audit is conducted; the second month is a follow-up audit; and in the third month, the final audit. The audits are a progressive inspection to obtain baseline data, offer solutions, then identify if changes are implemented.

The Audits include visual observations of the recycling and solid waste dumpsters to determine if acceptable program materials are being separated into the correct dumpster. Classrooms, offices and common areas are then looked at to see if recycling education signage and recycling bins are present.

Recycling bins and trash cans are inspected to see if recyclable items are in the trash can and vice versa. Recycling participation in classrooms, administrative areas, kitchens and custodial areas are noted on the Audit to pinpoint who needs recycling trainings and further assistance.

Each quarter's Audit outcomes identify the top recyclers in each Learning District. The schools with the greatest percentage improvement from their Initial to their Final Audit are then rewarded with the Recycling Rebate.

Recycling Rebate Program

The Recycling Rebate Program is funded by the revenue received from the sale of recyclables collected from the OCPS school and facility single-stream recycling program. Since the Rebate Program's inception in 2016, schools have been awarded over \$120,000 for their recycling efforts. In 2018-19, over \$33,000 was awarded to eighteen schools throughout the District.

Waste Reduction

A top priority to help achieve cost savings to the District is through waste reduction strategies. In 2018-2019, the Sustainability Office engaged in a deep dive into solid waste and recycling service levels and utility bills to identify areas where savings could be realized by right-sizing services based upon school enrollment and number of daily meals served. This analysis resulted in saving the District over \$460,000 despite waste hauler rate increases.



Cypress Creek High School Green Team Proudly Display the Rebate Check



OCPS & City of Orlando Staff Provide Food Rescue Training at Blankner K8

The USDA estimates that cafeteria food waste accounts for up to 30% of the waste stream at schools. To benchmark and capture the food being landfilled from our cafeterias, Blankner K8 and Audubon K8 Schools accepted the challenge to implement comprehensive food rescue programs. These programs collected food scraps from the kitchen and dining areas through a joint program with the City of Orlando.

The City provided the collection containers, marketing materials and transportation of the food waste to a facility which uses the scraps as an alternative energy source to create electricity. In addition, the schools also made a concerted effort to collect all unopened,

uneaten food to offer to other students and local non-profits. Through these actions, the two schools kept 60,000 pounds of food out of the landfill.

Forty-eight (48) other schools in the District reported the use of Share or Donation Tables in their cafeterias for students to donate their unwanted food to other students or non-profits which not only reduces the amount of waste being landfilled and the costs for solid waste collection and disposal, but positively impacts the community by providing food to the hunger insecure in Orange County. It is estimated that approximately 50 pounds of food is captured daily through these programs totaling over 400,000 pounds rescued in 2018-2019.



Blankner K8 Students Help Other Students in the Food Recovery Line



Lake George Elementary Share Table



Andover Elementary Donation Station

Reuse



received were either sold at auction, public sales or reused in other schools. These efforts not only divert materials from the landfill but also contributed over \$1 million to the District's general fund.

Through a partnership with Charity Recycling Services, 46 schools helped donate unwanted clothing to raise funds for school activities. In total, these schools earned approximately \$11,500 and diverted over 114,862 pounds of clothing from the landfill.

Surplus Warehouse Operations contributes to sustainability efforts through the reuse District materials such as old furniture and classrooms items. This past fiscal year, over 51% of all items

Waste Reduction

Six schools and two ancillary facilities had water bottle filling stations installed to work towards reducing the use of single-use plastic bottles on District property.

Energy

SUSTAINABILITY GOAL 2: Reduce Energy Consumption to 13.1 kWh/per square foot in 2018-2019.

The actual consumption is 13.69 kWh/per square foot. This represents a 2.09% increase over last year.

The OCPS Facilities Department has developed a multi-pronged approach to achieve the Sustainability Strategy for progressive reductions in energy consumption.

Eleven new schools were opened in 2018-19. Each was built to Department of Education's Green Globes standards. Since 2012, the District has participated in Duke and OUC's Energy Rebate programs for commercial utility customers. The Energy Rebate program provides cash incentives for the inclusion of cool roofs, window film installation, Energy Star windows and heat pumps, highly efficient HVAC systems and other conservation upgrades in new construction and major capital renewal projects. Since 2012, the District has earned over \$2.8 million dollars, which is reinvested into other efficiency projects. In 2018-2019, the total amount earned in Energy Rebates for new construction was \$392,066.



BEFORE: Old Roof



AFTER: With Cool Roof

In addition, OUC offers custom incentives to projects that reduce peak demand for electricity. OCPS received utility bill credits for the custom incentives in the amount of \$52,695 last year for these type of projects. The Energy Rebate earnings completely fund Sustainability Projects which reinvest the earnings into measures to assist the District in achieving its Sustainability Strategies. The 2018-2019 Sustainability Projects include the retrocommissioning of three schools, the installation of sewer deduct meters at eight (8) schools and Calsense irrigation systems on athletic fields at five (5) high schools.

2018-19 Commodity	Use	Cost
Electric	438,901,171 kWh	\$46,927,647
Irrigation	266,954 Kgal	\$556,803
Natural Gas	712,874 THERM	\$373,346
Propane	81,496 gallons	\$103,905
Sewer	401,376 Kgal	\$3,308,022
Water	434,350 Kgal	\$1,426,186
Total \$		\$52,695,909

Total Utility Cost and Consumption Data

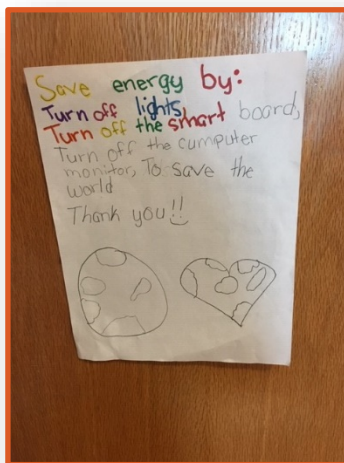
During 2018-19, additional energy conservation measures included the installation of Energy Star appliances in over 100 school kitchens, LED lighting retrofits in two schools and two ancillary facilities and chiller replacements in eight schools.

As part of curriculum, students learn the importance of energy conservation and increasing the use of renewables for energy production. At the elementary level, students are creating school-wide projects to promote energy conservation. Secondary students are applying real life strategies

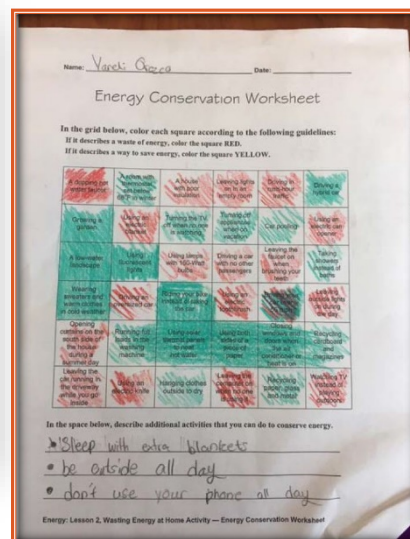
to implement energy savings in classrooms by using the buildings as tools for learning. An Innovative STEM project had students identify a very hot classroom, then research and determine the best window film application to cool the room, thereby reducing energy consumption and saving money.



Bay Lake Elementary Students during Conservation Week - "Be Bright, Turn Out the Light"



Zellwood Elementary Application of Conservation Lesson



Zellwood Elementary Conservation Lesson



Wedgefield K8 Middle School Student Calculations



Wedgefield K8 Middle School Student Testing

Water

SUSTAINABILITY GOAL 3: Reduce Water Consumption to 21.35 gallons/per square foot in 2018-2019.

The actual consumption is 23.03 gallons/per square foot. This represents a 9.8% reduction over last year.

The Sustainability Funded project to install Calsense irrigation systems on five (5) high school athletic fields saved the District 10,874 Kgal of water for irrigation use over the prior year. The new systems put watering on a specific schedule, have rain and moisture sensors which will stop the system from running if there is sufficient moisture present and will also shut down if there is a break in the pipe or sprinkler heads by sensing too much water flow.



Calsense Irrigation System

Students are actively involved in water conservation efforts. As they learn about the water cycle and the Floridian Aquifer, they begin to understand the need to protect and save this valuable resource. True learning is achieved when students see a problem and seek to solve it based upon their new found knowledge.

An incredible example of this occurred at Millennia Gardens Elementary Schools. After learning about the importance of water, students noticed the air conditioning units on the portables had condensate water continually leaking onto the ground. Students decided to take action and contacted a local hardware store to request the donation of buckets to capture the leaking water. Now the water is reused on campus to irrigate flowers on campus.



Bucket Donation



Buckets Set Under All A/C Units

Transportation

SUSTAINABILITY GOAL 4: Reduce Diesel Fuel Consumption to 172,830 gallons

Diesel fuel consumption was reduced to 176,485 gallons exceeding this year's goal.

In school year 2018-2019, OCPS Transportation Services Department transported 69,282 students each day in approximately 860 buses. This year 1.8 million were driven by our buses, yet due to numerous operational efficiencies undertaken by the Department, a reduction in diesel fuel was still achieved. Transportation Services continually seeks ways to reduce diesel fuel consumption by using biodiesel when available, implementing routing efficiencies and reducing idle-time.

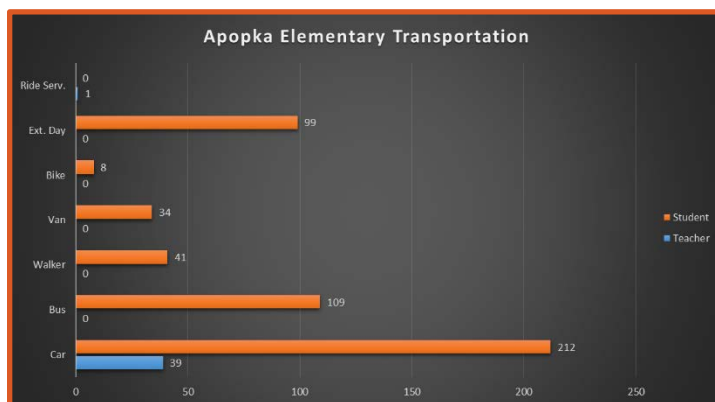
Students and faculty at schools are also supporting emission reduction initiatives by implementing "No-Idle Zones" in the car pickup lines and applying real life strategies to decrease the number of cars on the road. As part of their journey to become a Green School, Apopka Elementary students received an informative educational session from an OCPS Transportation employee. This presentation advised students on the importance of mass transportation. With this new knowledge, students set out to determine their impact. They conducted a survey to determine the mode of transportation students and staff use to get back and forth to school each day. With the survey results, students created a graph which indicated that individual cars was the majority. Then students took action: developing posters to remind parents to turn off their engines while in the car rider line and also participating in walk/bike to school days.



Students Learn from OCPS Transportation Staff



Students Create Posters to Raise Awareness



Students Graph Survey Results to Identify Transportation Patterns

Green Schools Recognition Program

SUSTAINABILITY GOAL 5: Increase Number of Applicants to 17 Schools.

Twelve schools applied to the Green Schools Recognition Program –the same number as last year.

The Green Schools Recognition Program (GSRP) honors and rewards schools for their sustainability efforts to conserve energy and water, reduce waste, improve health and well-being, enhance the school grounds with gardens and outdoor learning areas while incorporating sustainability in the curriculum and developing community partnerships.

The first, second and third place winners with the top scores are awarded cash prizes in the amount of \$5,000 (First Place), \$3,000 (Second Place) and \$1,000 (Third Place). The award money is funded solely from Energy Rebates received for energy efficiency measures in new school construction.



This year's Green School winners:

Top Awards		
1 st Place	Apopka Elementary School	\$5,000
2nd Place	Millennia Gardens Elementary School	\$3,000
3rd Place	Bay Lake Elementary School	\$1,000

First Place: Apopka Elementary School

As a first-time applicant to the Green Schools Recognition Program, Apopka Elementary was surprised to discover their efforts would bring them such a high honor. Their innovative approaches to waste reduction and promoting health and wellness to all staff and students are two major reasons why the school took First Place this year.



Apopka Elementary School's Green Central Station

The school's "Green Central Station" was created to provide an accessible, highly visible area for the collection of traditional recyclables and plastic bags, used markers, old mascara wands and dental hygiene products. Some items are recycled into new items, some serve as fundraisers for the school, while other items are donated to local non-profits.

Apopka Elementary excelled at incorporating many Green School categories into projects. A great example is combining a waste reduction effort into their school gardens. The school participated in a Carton2Garden contest- collecting over 100 milk cartons to reuse into the garden. Pallets were also reused, painted with the school's Dolphin Pledge, "Do Your Personal Best," then seeds and flowers were planted in the cartons.

Students and staff participated in numerous health initiatives which garnered them this year's top spot!



Reuse in the Garden

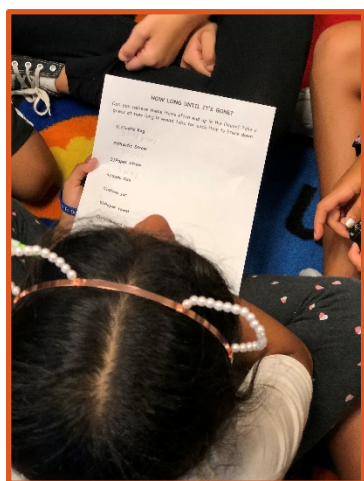


Living a Healthy Lifestyle

Living a
Healthy
Lifestyle

Second Place: Millennia Gardens Elementary School

Millennia Gardens Elementary is no stranger to taking a holistic approach to sustainability on their campus. The school's investment in integrating sustainability into the curriculum earned them high rankings to become this year's Second Place Green School winner. Students excel at using their classroom education to take action. An example of this is students learned how long it takes for certain items to decompose in nature when learning about the effects of litter. With this knowledge they developed a plan where students could sign up to donate their recess time to help with campus cleanups.



Learning about Litter



Campus Cleanup

Donate Your Recess to Campus Cleanup

**Required*

Teacher Name *

Your answer

Grade Level *

☐ Pre-K
☐ Kindergarten
☐ 1st Grade
☐ 2nd Grade
☐ 3rd Grade
☐ 4th Grade
☐ 5th Grade

Date

Date

mm/dd/yyyy

SUBMIT

Never submit passwords through Google Forms.

Student Stewardship

A highlight of Millennia Gardens' application and student enrichment came with a trip to the Everglades where they were deeply immersed in outdoor learning, habitat improvement and water conservation lessons. This was a life changing experience for all the staff and students involved.



Airboat Tour in the Everglades



Park Ranger Tour in the Everglades

Third Place: Bay Lake Elementary School

Bay Lake Elementary is the winner of the Green School's Third Place award. This year, the school placed a great focus on resource conservation with the implementation of their first Conservation Week Event. Staff, students and families were encouraged to show their support for energy and water conservation as well as transportation and waste reduction in many ways such as wearing blue to show commitment to reduce water use. The school was successful in building awareness and increasing participation in conservation efforts to maximize their impact in the community.



Wearing Blue to Support Water Conservation



Judge Choice Awards in the amount of \$750 are sponsored by community partners to reward schools that are conducting projects that most closely align with the partner's organizational mission. Judges read all applications in the Green School category they are sponsoring. This year, nine (9) community partners provided Awards as follows:

Sustainability Category	Award Sponsor	Selected School	Award Amount
Energy Conservation	Lightyear Technologies	Zellwood ES	\$750
Water Conservation	OUC	Blankner K8	\$750
Waste Reduction	City of Orlando	Bay Lake ES	\$750
Habitat Improvement	SeaWorld	Wedgefield K8	\$750
Innovation	Universal Orlando Resorts	Wedgefield K8	\$750
Community Partnerships	Charity Clothing Recyclers	Millennia ES	\$750
School Gardens	4Rivers Foundation	Killarney ES	\$750
Healthy Lifestyle	AdventHealth	Apopka ES	\$750
Campus Beautification	Keep Orlando Beautiful	Zellwood ES	\$750

Conservation Incentive Awards are also provided to schools that are at or below the current year's District Sustainability Goal for Energy and Water Consumption. The Energy Administration Department reviews utility bills for all Green School applicants to determine their efficiencies. Schools are awarded \$500 when they operate greater than 11% over the annual Sustainability Goal and \$300 when they operate up to 10% better than the annual Sustainability Goal. Schools awarded with Conservation Incentives Awards for exceeding the District Sustainability Goals are:

Energy Incentives	Award Amount
Apopka ES	\$500
Bay Lake ES	\$500
Dommerich ES	\$500
Meadow Woods ES	\$500
Millennia Gardens ES	\$500
Tildenville ES	\$500
Zellwood ES	\$500
Killarney ES	\$300
Water Incentives	Award Amount
Apopka ES	\$500
Audubon K8	\$500
Bay Lake ES	\$500
Dommerich ES	\$500
Killarney ES	\$500
Meadow Woods ES	\$500
Millennia Gardens ES	\$500
Zellwood ES	\$500

District Initiatives

Food and Nutrition Services Department

Food and Nutrition Services Department (FNS) served more than 41.6 million meals in the 2018-2019 school year which is approximately 233,150 meals per day. To ensure efficient operations, FNS is continually looking for ways to improve their impact on the District. In the last three (3) months of the 2017-2018 school year, the Department piloted the use of compostable paper trays in over 100 elementary schools. The results of the pilot were so positive that in the 2018-2019 school year, FNS has gone to 100% compostable trays and cutlery, completely eliminating the use polystyrene trays and plastic cutlery.

A highlight of the year was the partnership FNS developed with the Ocoee High School's Agriculture Program. The Department purchased over 84 pounds of vine-ripened beefsteak tomatoes which were grown and harvested by Agriculture students at the campus greenhouse. The tomatoes were used in pico de gallo and salads which were served in the school cafeteria. Purchasing the tomatoes will allow the greenhouse to make future seed purchases to continue educating Agriculture students in the classroom.



Ocoee High School Ag Students Proudly Display Their Harvest



Students Participate in Farm to School Week

As part of FNS's commitment to the health and wellness of our students, all schools participate in the Florida Department of Agriculture's Farm to School program. This program promotes fresh from Florida produce served in schools as well as supports local agriculture and our local community partners. A harvest of the month calendar highlights a different Florida-grown item each month and is incorporated into our meal plans. Food & Nutrition Services defines local as fresh from Florida, in SY19, FNS purchased over 3.4 million pounds of produce of which 17% was sourced locally. FNS also offers the Fresh Fruit and Vegetable Program (FFVP) to a select number of schools throughout the district. This program encourages students in 16 schools to taste various types of produce to which they may otherwise never be exposed.

FNS and the Sustainability Office are committed to food recovery and reducing food waste in our cafeterias. Share tables have been established in participating schools, allowing students to take an extra helping of rescued food and beverages at no cost to them. Donation tables allow for non-profit organizations to pick up rescued food from a participating school.

Materials Management Department

The Materials Management Department oversees numerous operations, including OCPS printing service, mail services and warehouse operations. By seeking out ways to be more efficient, the department has implemented numerous strategies that have greatly improved sustainability in the District. The Printing Services Department repurposes all cardboard boxes received to reuse for shipping. The central mail service center recycled over 7,800 pounds of junk mail received last year. Warehouse operations is responsible for reusing and recycling over 4,800 pallets annually.

Facilities Division

The Facilities Division is also taking on projects to positively impact our community. The Curb Appeal program was developed to help clean up and beautify school campuses. The collaborative efforts bring students, faculty, Grounds Department staff and the community together to install new plants and mulch to make our school campuses look their best. In school year 2018-2019, 21 schools participated in the Curb Appeal program.



Apopka Middle School Curb Appeal Project

Another sustainability initiative by the Facilities Division is the installation of LED lighting in school parking lots. Not only are the LED's more energy efficient, they are brighter leading to a safer campus.

In new school construction projects, more trees are being left on the property during site work. The best example is the newly constructed Dover Shores Elementary, where the live oak tree that had grown on the original campus for over 50 years was saved and the new building was constructed around the tree. The tree is the focal point on campus with a great deal of outdoor learning taking place under its shade.



Dover Shores Elementary Live Oak Tree