

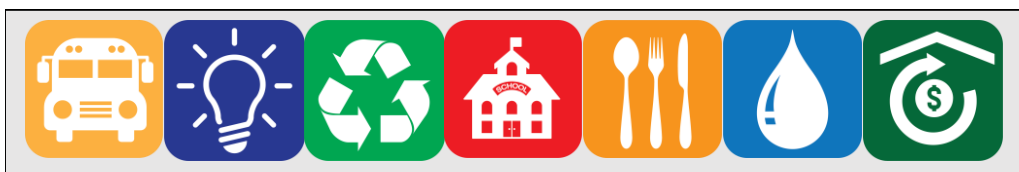


Orange County Public Schools



SUSTAINABILITY IMPACT REPORT

SCHOOL YEAR 2019-2020



SUSTAINABILITY IMPACT REPORT

ORANGE COUNTY PUBLIC SCHOOLS

Commitment to Whole School Sustainability

The Orange County Public Schools (OCPS) commitment to sustainability continues to grow each year. 2019-2020 was no exception despite having to face and respond to a global pandemic. Our school community demonstrated strength and resilience as we navigated through this ever-changing landscape.

The 2015 OCPS Strategic Plan included goals for Efficient Operations and a Safe Learning & Working Environment. The five sustainability targets to reduce energy, water, diesel fuel and to increase recycling and green schools participation align with these goals.

The sustainability targets established in 2015 included progressive targets to raise the bar of achievement in each area.

This report* shares this year's initiatives and accomplishments to highlight the District's commitment to the three pillars of sustainability:

1. Environment: Caring for our planet so natural resources and quality of life are plentiful and healthy for future generations.
2. Economics: Being good stewards of our taxpayer's dollars by seeking revenue and saving money through efficient operations and less wasteful practices.
3. Equity: Ensuring our actions positive impact everyone in our community.

TABLE OF CONTENTS

Recycling.....	2
Energy Conservation.....	5
Water Conservation.....	7
Transportation Reduction.....	8
Green Schools Recognition Program.....	10
Our Impact.....	13

*All photos in this Report were taken prior to the COVID-19 pandemic

DISTRICT PROFILE

- Eighth (8th) largest school district in the nation
 - Fourth (4th) largest school district in Florida
 - 214,401 students
 - 25,756 employees
 - 34 million meals served
 - 845 school buses traveled over 13 million miles
 - 32,471,429 square feet of facilities
- 199 Schools
 - 124 Elementary
 - 38 Middle
 - 9 K-8
 - 20 High
 - 8 Exceptional

Recycling

2019-2020 Sustainability Target-
Recycle 75% of the total waste stream
OCPS recycled 50% of the total waste stream



Arbor Ridge K8 students teaching their fellow students how to recycle right!

Recycling programs in our schools and facilities are not just a districtwide utility program administered by the Operations Division. The programs have become an integrated part of our students' education. Students learn about waste reduction as part of the elementary science curriculum, schools partner with local municipal solid waste professionals to supplement their lessons with real-world information about the local landfill and how recycling is collected and processed in their community. District Sustainability Department staff also provide recycling and waste reduction resources to our schools so they can understand and participate in programs to minimize their waste impact. Student clubs in many schools provide classrooms' recycling collection and inform the rest of the school how to recycle right by creating posters and videos.





Audubon Park School wins a quarterly recycling reward for best recycling program!

Waste Reduction

Our schools are leading the charge to reduce waste. Staff and students are taking the initiative to research and implement programs that will keep items out of the garbage. Fourth (4th) grade students participated in the international Future Problem Solvers competition to learn about the impacts of food waste and develop solutions for this issue. As part of the educational component, they learned about the district's initiatives to continue reducing food waste through food rescue programs.

Food rescue programs in our schools prioritize all three pillars of sustainability. Eliminating unopened, uneaten food from the waste stream reduces the cost of solid waste collection and disposal. Keeping food out of the landfill improves our environment by reducing our carbon footprint. By sharing this food with local non-profits, we are making a positive social impact in our community by providing healthy, nutritious food to those in need.





Dream Lake Elementary students celebrating the new clothing recycling bin on campus

Together, over 100 schools and facilities donated nearly 500,000 pounds of unwanted clothing to help those in need. This community partnership earned our schools funds for activities and diverted these items from the landfill.

As part of developing a culture of sustainability, the district installed sixty-seven (67) water bottle filling to reduce the use of single-use plastic bottles and encourage reuse. By March 2020, OCPS was the first school district in Central Florida to eliminate all Styrofoam from cafeteria service. Selling old furniture and classroom items at auction generated \$1.1 million to the general fund and kept this material out of the landfill.



Energy Conservation

2019-2020 Sustainability Target-
Reduce energy consumption to 12.9 kWh per square foot
OCPS consumed 13.74 kWh per square foot

Seven (7) new schools were opened in the 2019-2020 school year. Each was built to Department of Education's Green Globes standard. Renovations to existing schools included LED lighting, cool roofs, chillers, cooling towers, window film, Energy Star windows and heat pumps, highly efficient HVAC systems and other conservation upgrades.

The installation of energy efficient systems, fixtures and structures in both new construction and capital renewal projects enable the district to participate in Duke Energy and OUC's Energy Rebate programs for commercial utility customers. The Energy Rebate programs provide cash incentives for these conservation projects. The district earned over \$450,000 in cash incentives plus an additional \$76,000 in utility bill credits from the programs in 2019-2020.

The Energy Rebate earnings completely fund sustainability projects which reinvest the earnings into further efficiency projects. This year, a portion of the earnings funded three (3) additional school retro-commissioning projects which takes a deep dive into the mechanics of the buildings to determine energy and cost savings from system repairs and part replacements.

LED lighting replacements and retrofits were conducted districtwide as another energy saving initiative. On our campuses, LED's were installed in parking lot lights, athletic fields, and in walkway canopies to improve visibility and enhance safety. Complete replacement of all interior lighting to LED was completed at Edgewater High School, College Park Middle School, ESE Administration, Lake Nona Transportation and Robinswood Middle School.

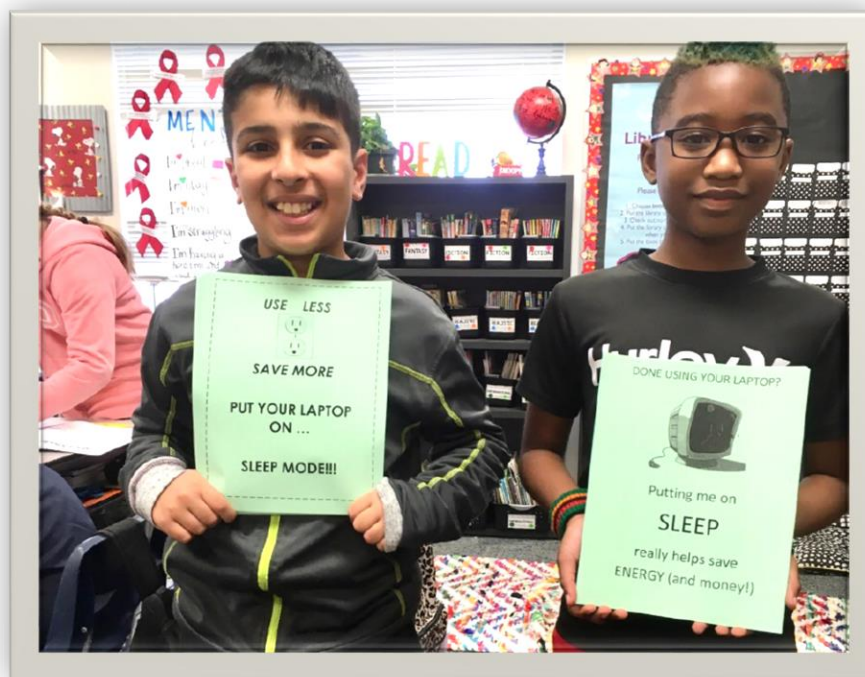
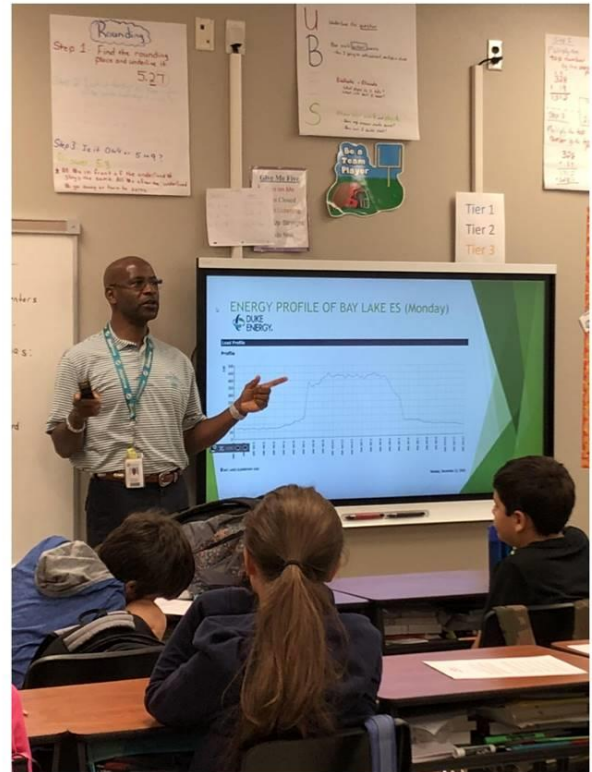


BEFORE: Old Athletic Field Lighting at Boone High School



AFTER: New LED Athletic Field Lighting at Boone High School

Elementary and Secondary students learn about energy production, the importance of energy conservation and use of renewable energy sources. Teachers partner with subject-matter experts from the district and the community to enhance their lessons with actual data on how much energy their school consumes and the district's overall impact. With this knowledge, our students are creating conservation programs in their schools to make a difference.



Westpointe Elementary students implement energy conservation programs!

Water Conservation

**2019-2020 Sustainability Target-
Reduce water consumption to 20.93 gallons per square foot
OCPS consumed 20.53 gallons per square foot**

As early as second (2nd) grade, students begin to learn the importance of water as a basic need and its limited supply on Earth. By middle school, they are learning the impacts of human activity on our water resources. Teachers created lessons designed for students to observe and report water-wasting issues at their school. When schools closed down in mid-March due to COVID-19, the lessons continued but the observations took place at home. Graphing actual school water usage in Math class is an excellent example of integrating sustainability into all subjects.

The Water Detectives
Water Detectives In Home Water Conservation Audit Form

Name _____ Grade _____
School _____ People in Your Home _____ Date _____

Monday Tuesday Wednesday Thursday Friday

Activities

- Every time you flush the toilet you use 2 gallons of water. Write down the total number of times the toilet is flushed daily and multiply it by 2.
- Taking a shower uses 2 gallons of water per minute. Check up all the minutes you spend in the shower each day, then multiply it by 2.
- Brushing teeth uses 2 gallons of water per minute. Write down the number of minutes you brush your teeth each day and multiply it by 2.
- The dishwasher uses 10 gallons of water per load. Add up the number of loads that you run each day and multiply it by 10.
- Water Meter Reading: Write down the number on the beginning meter of your yard. Add up the total number of gallons used in that yard. Add up the total number of gallons used in that yard. Add up the total number of gallons used in that yard. Add up the total number of gallons used in that yard.

Beginning M 1 _____ End M 1 _____
Beginning M 2 _____ End M 2 _____

Section A: With your family members, can you name two ways to save water in your home?
1. _____
2. _____

Section B: Why should we conserve water?
1. _____
2. _____

How To Use This Audit Form: Start on Monday. Have one highlighter in hand. Write in the gallons of water used for each of the four activities. When you have completed all the days of Water One, add the number of gallons used. Can you be wiser to conserve water? Can you save water in water? Write down the number of gallons used.

Water Use Student Observations Form

Water Conservation	Yes	No	Observations
A) Water fountains operating properly.			
B) Faucets operating properly.			
C) Commodes and urinals operating properly.			
D) Exterior hose bibs not leaking.			
E) Irrigation working properly. (No washed out areas near sprinkler heads and sprinkler heads functioning...no geysers spraying out of control)			

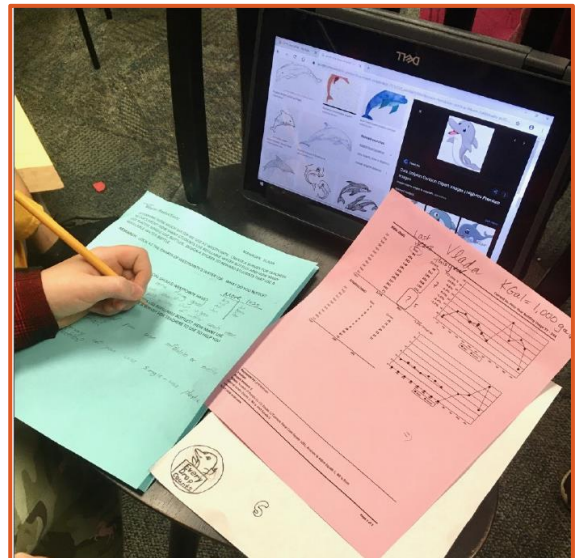
NOTES:

Date: _____

Time: _____

Area/Building: _____

Observer Name: _____



Bay Lake Elementary students implement water conservation programs!

Transportation Reduction

2019-2020 Sustainability Target-
Diesel Fuel avoidance to 199,457 gallons
OCPS avoided the use of 143,263 gallons of diesel fuel



Wyndham Lakes Elementary participates in Walk, Bike and Roll Days!

The Transportation Services Department seeks ways to reduce diesel fuel consumption by using biodiesel when available, implementing routing efficiencies and reducing idle-time. This year, the Department researched new technologies in all-electric school buses. Staff participated in demonstrations to learn more about the mechanics and operations. The Department also applied for grant funds, which if awarded, would allow the district to purchase several all-electric buses to pilot. In an effort to reduce emissions in our community, OCPS Food & Nutrition Services Department increased local purchases of bread, milk and produce by 100%.

Transportation Department staff visit classrooms to educate students about their role and impact in the district. Students learn how vehicle emissions affect health and contribute to climate change. To promote wellness on our campuses, schools are participating in programs to get more students biking and walking to school. These programs have a dual positive affect on wellness: students are exercising and there are less vehicles in the arrival and dismissal car-lines. Students are also initiating “No-Idle” campaigns to create awareness of the harmful effects of leaving cars running or idling while in the car-line.





RESEARCH: HOW MUCH EMISSIONS DOES ONE IDLING CAR PRODUCE? Every 10 minutes 6 billion gallons of fuel each year. There are 250 million cars in the U.S. each car emits 24 gallons of fuel by idling per year.

DO YOU HAVE A COST-EQUIVALENT FOR THIS? You spend about 60 dollars when idling per year, a total of about 15 billion dollars in an average lifetime.

COUNT OUR CAR-LOOP CARS:

DATE 2/28/2020, Friday - 3/21/2020

NUMBER OF CARS CARRYING ONE CHILD 86 cars = 2/3 of all cars

NUMBER OF CARS CARRYING MULTIPLE CHILDREN 38 cars = 1/3 of all cars
25 cars = 1/5 of all cars

BASED ON THIS DATA/THESE NUMBERS, HOW MUCH EXHAUST IS BEING EMITTED IN CARLOOP ON ONE AFTERNOON? In one afternoon, if each car loops for 10 minutes, that's 100 million gallons of fuel.

Students researched greenhouse gas emissions and the cost associated with idling.

IDLING YOUR VEHICLE—RUNNING YOUR ENGINE WHEN YOU'RE NOT DRIVING IT—REDUCES YOUR VEHICLE'S FUEL ECONOMY, COSTS YOU MONEY, AND CREATES POLLUTION.

CCHS NO IDLING DAY

PERSONAL VEHICLE IDLING WASTES ABOUT 3 BILLION GALLONS OF FUEL—GENERATING AROUND 30 MILLION TONS OF CO2 ANNUALLY IN THE U.S.

@CCHSECO

Sp Adobe Spark

BY HAVING MORE PEOPLE USING ONE VEHICLE, CARPOOLING REDUCES EACH PERSON'S TRAVEL COSTS SUCH AS: FUEL COSTS, TOLLS, AND THE STRESS OF DRIVING.

CCHS CARPOOL DAY

CARPPOOLING IS ALSO A MORE ENVIRONMENTALLY FRIENDLY AND SUSTAINABLE WAY TO TRAVEL AS SHARING JOURNEYS REDUCES AIR POLLUTION, CARBON EMISSIONS, TRAFFIC CONGESTION ON THE ROADS, AND THE NEED FOR PARKING SPACES.

@CCHSECO

Sp Adobe Spark



Green Schools Recognition Program

**2019-2020 Sustainability Target-
Increase Green Schools' participation to 18 schools**
OCPS had 14 schools participate in the Green Schools Recognition Program

The Green Schools Recognition Program (GSRP) honors and rewards schools for efforts to conserve resources, improve health and wellness, enhance school grounds and foster reciprocal community relationship while integrating sustainability into all subject areas. Nearly one-third (1/3) of our schools have participated in the program since its inception seven (7) years ago.

The GSRP takes a holistic approach to creating a culture of sustainability in our district. In all categories of the program, education is the key focus. Staff and students must learn about each topic and why it matters. Then they conduct a baseline investigation to understand how their school contributes to the issue. Schools create projects to address what they discovered. Finally, the school communicates the results of their projects to the greater school community.

Community partners judge and score the GSRP applications and the schools scoring in first, second and third place are awarded cash prizes in the amount of \$5,000 (First Place), \$3,000 (Second Place) and \$1,000 (Third Place). Funding for the award money is solely from Energy Rebates received for energy efficiency measures from district construction projects. In this way, we continually re-invest in the success of our students.

Schools are also awarded cash prizes for their conservation efforts. Schools that are at our better than the current year's energy and water conservation targets receive cash awards up to \$500 for their hard work. Sponsors from the community contribute \$750 awards to schools they feel have the best programs in alignment with the sponsor's mission. All 14 schools that applied this year won at least one type of award!

**2019-2020
GREEN SCHOOLS RECOGNITION PROGRAM
AWARD WINNERS**

1ST PLACE - \$5000 AUDUBON PARK SCHOOL	2ND PLACE - \$3000 BLANKNER SCHOOL	3RD PLACE - \$1000 WESTPOINTE ELEMENTARY SCHOOL
---	---	--

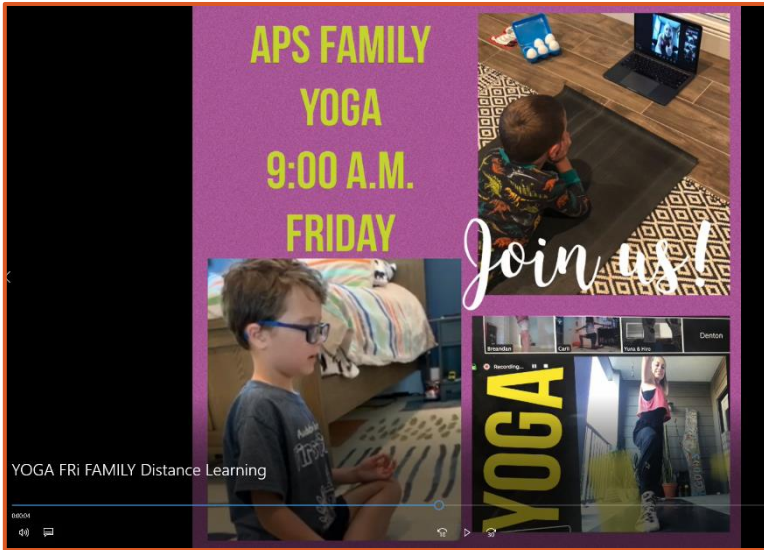
\$750 Judge Choice Awards

Sustainability Category	Award Sponsor	Selected School
Energy Conservation	Lightyear Technologies	Blankner School
Water Conservation	OUC, The Reliable One	Arbor Ridge School
Waste Reduction	City of Orlando	Blankner School
Innovation	Universal Orlando Resorts	Cypress Creek HS
School Gardens	4Rivers/4Roots Foundation	Westpointe ES
Campus Beautification	Keep Orlando Beautiful	Cypress Creek HS

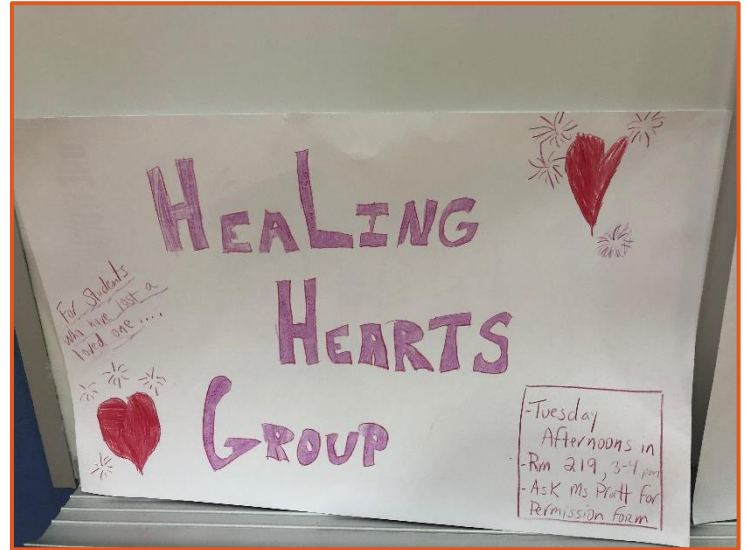
Water & Energy Conservation Incentive Awards			
Energy Savings:		Water Savings:	
\$500 Audubon Park School	\$500 Sunridge ES	\$500 Arbor Ridge School	\$500 Meadow Woods ES
\$500 Bay Lake ES	\$500 Tildenville ES	\$500 Audubon Park K8	\$500 Wedgefield School
\$500 Blankner School	\$500 Wedgefield School	\$500 Blankner School	\$500 Westpointe ES
\$500 Dream Lake ES	\$500 Westpointe ES	\$500 Cypress Creek HS	\$500 Wyndham Lakes ES
\$500 Maxey ES	\$500 Zellwood ES	\$500 Dream Lake ES	\$500 Zellwood ES
\$500 Meadow Woods ES	\$300 Cypress Creek HS	\$500 Maxey ES	\$300 Bay Lake ES

First Place: Audubon Park School

Through an intentional and strategic development of community partnerships with sustainability thought-leaders, Audubon Park School (APS) has set out to make a difference in their community since they first opened their doors in 2018. The APS student Change-maker Club came to life through the relationship built with Rollins College' Social Entrepreneurship professor. This innovative Club develops pitches to local businesses to request support for projects related to the UN's 17 Global Sustainable Development Goals. The pitches have resulted in projects for staff and student wellness, reuse programs to reduce waste, school gardens, community service and more! The projects continued from home when schools closed!



The school offered Virtual Family Yoga weekly to maintain the social emotional health of the school community while students were all in Distance Learning.



Student support group for those who have lost a loved one.



School Garden Harvest!



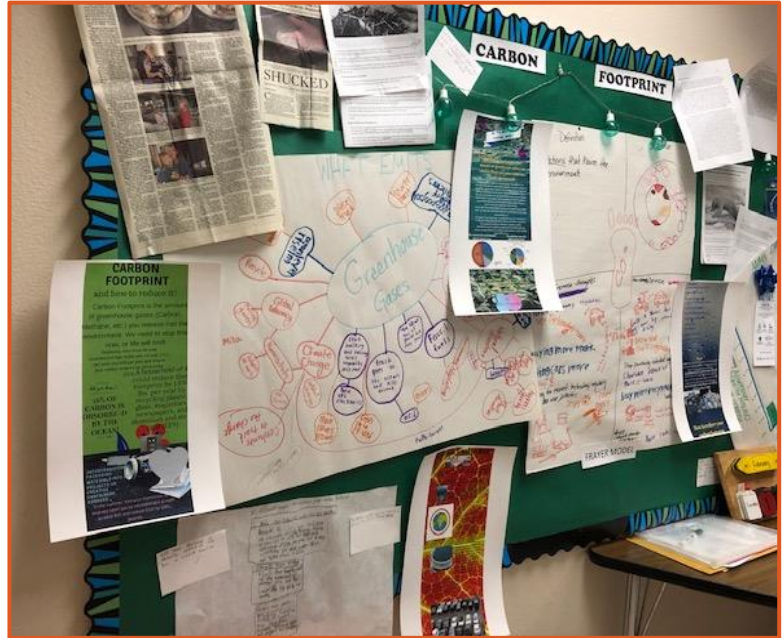
Selling the harvest at the local farmer's market.

Second Place: Blankner School

Blankner School's mascot is the bulldog. This has led to their P.A.W.S mission— for all students to develop Perseverance, Accountability, Working Hard and Supporting Others- a perfect combination that includes sustainability in all aspects! Blankner students make an impact in their community by participating in Beautification Days, recycling pick-ups, and conservation efforts. They volunteer to care for the animals in their Living Lab and at local charities. Each grade level takes on service projects and during their Innovation Days, older students help the younger students with projects and activities.



Campus Cleanup!



Carbon Footprint Posters!



Teacher Swap Shop!



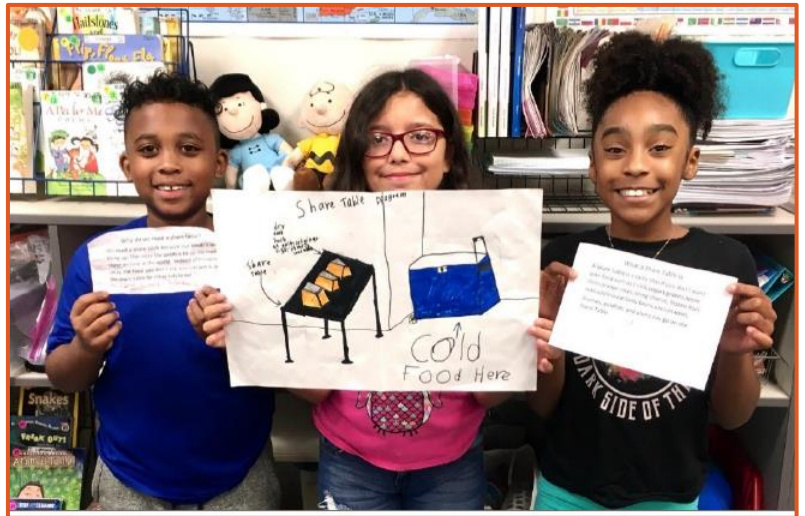
The Green Team!

Third Place: Westpointe Elementary School

As a first time Green Schools' applicant, Westpointe began their journey into sustainability this year. They were dedicated to create a "green" culture at their school. Twenty-two (22) students became the green leaders and advocates on campus, helping start new green initiatives, recruiting teacher supporters, and educating and involving all kindergarten through 5th grade peers.



Upcycling Project for Outdoor Learning Area!



Educating other students on the new Share Table!

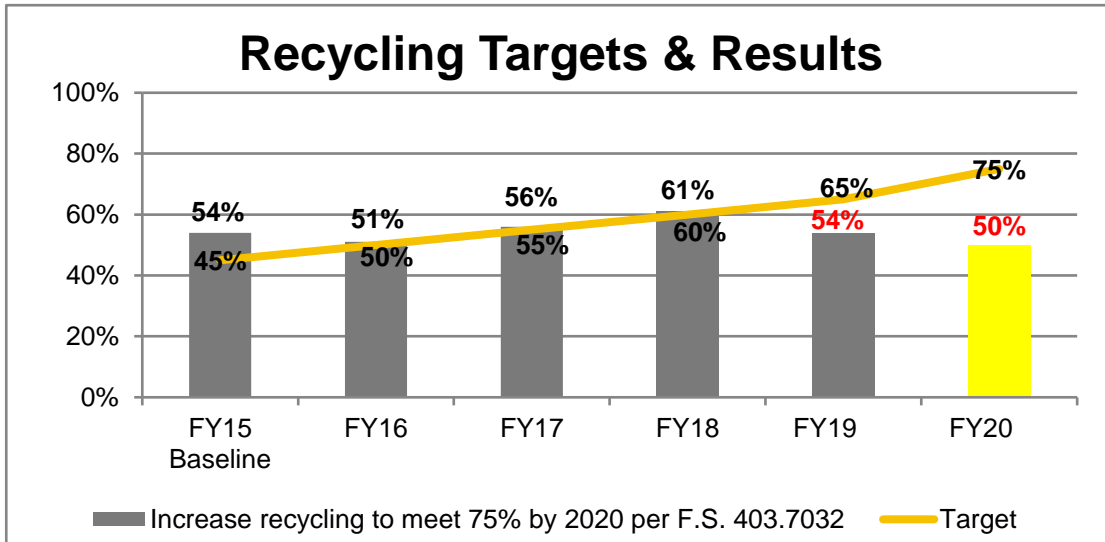


The Thanksgiving Food Drive!



Preparing for the Pollinators!

Our Impact

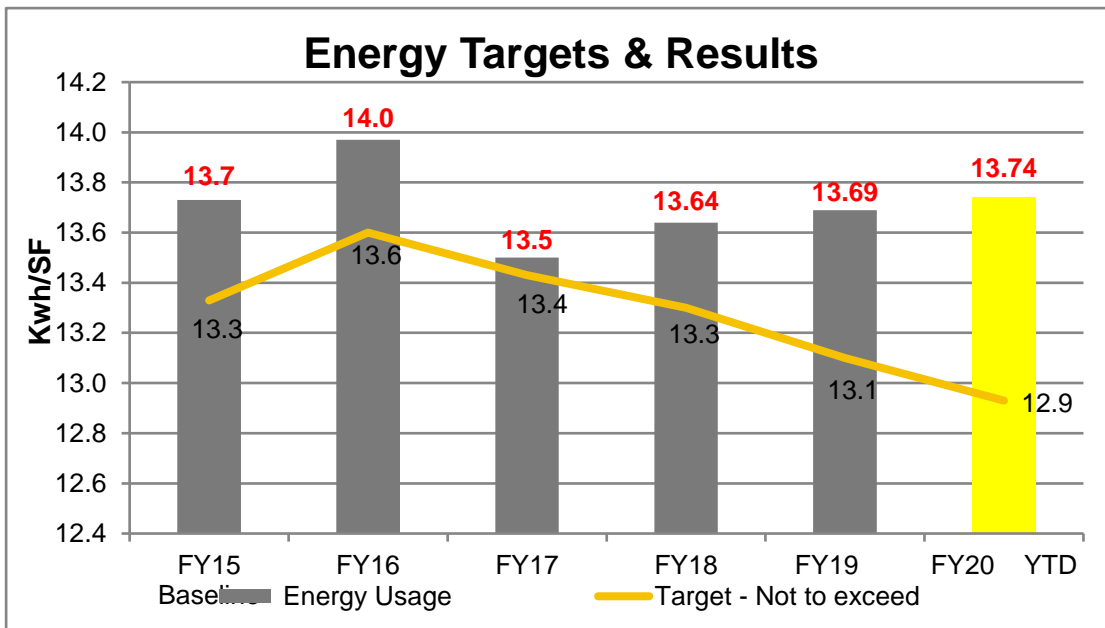


The district generated nearly 39,000 tons of waste – half of which was recycled.

The cost for collection and disposal of landfilled waste is \$1,800,399.

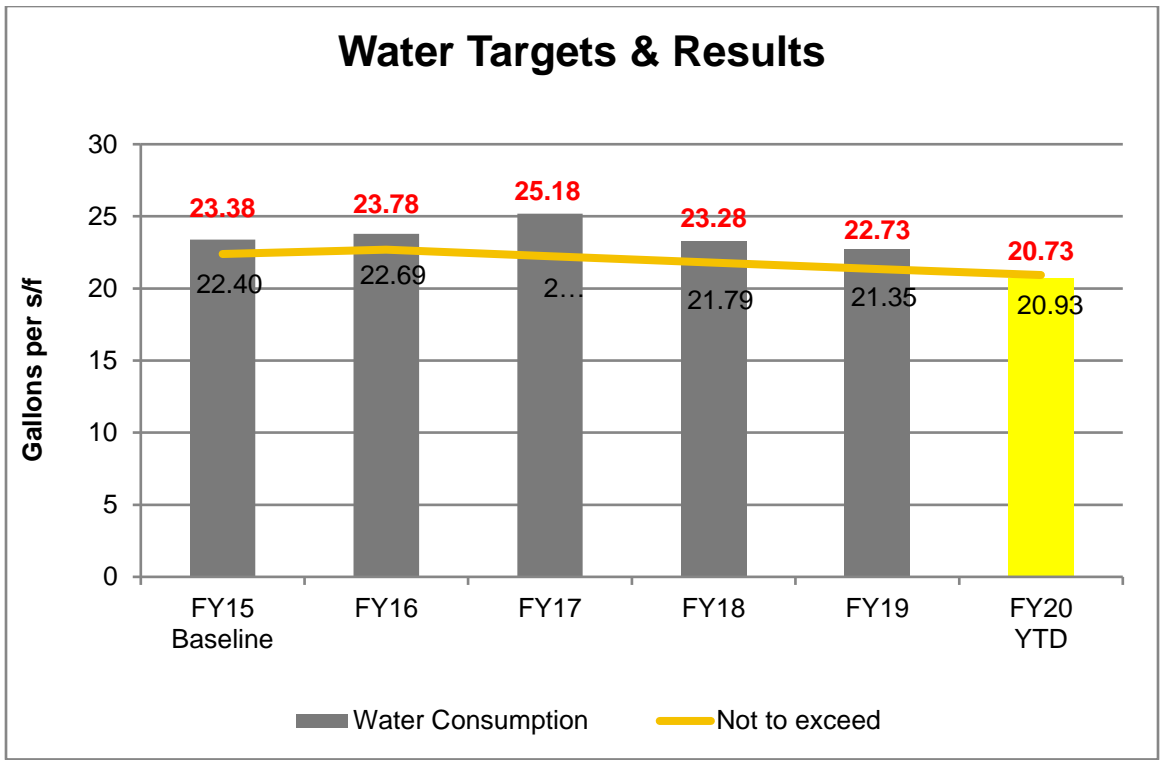
Recycling collection and processing cost nearly \$484,073.

The revenue generated from the sale of recyclable was \$69,633.

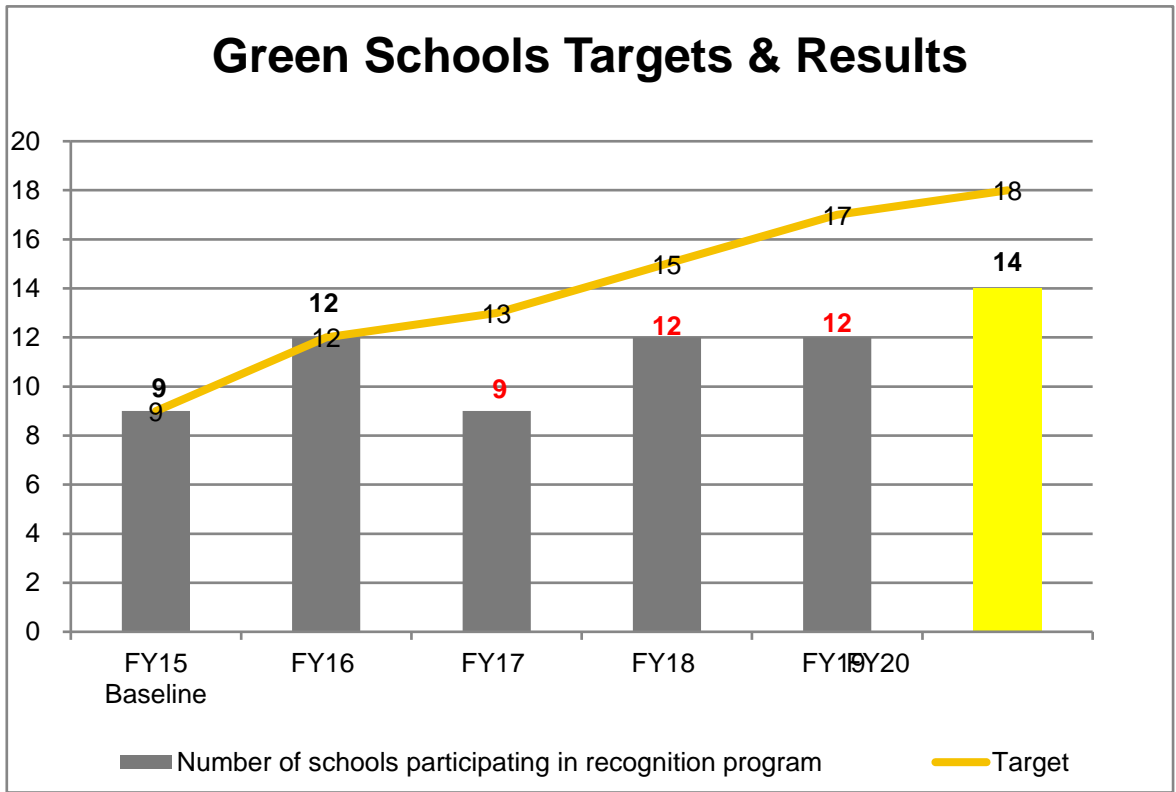


The district consumed 446,179,166 kWh of electricity at a cost of \$46,693,457.

The greenhouse gas emissions from the electric use =244,802 metric tons of CO₂.



The district consumed 516,961,000 gallons of water at a cost of \$1,989,779.



Every school day, OCPS school buses travel 100,000 miles, consuming 1.8 million gallons of diesel fuel. The greenhouse gas emissions diesel fuel use = 15,997 metric tons of CO₂ daily.

Next Steps

While progressive targets were established for the 2015-2020 strategic plan, a communication plan was not included at the onset as to how the goals would be achieved. With this understanding, OCPS is looking to develop a strong framework and support for the future of sustainability within the district.

Sustainability Plan 2030

The 2015-2020 Sustainability Targets are completed. The district has realized that student, staff and community awareness, engagement and accountability are key to achieving success in sustainability.

OCPS is in the process of developing the Sustainability Plan 2030 to create objectives, goals and indicators that align with the district's mission and vision. Planning includes input from students, staff and the community to ensure we listen and learn what matters most to our stakeholders.

The district's commitment to a Whole School Sustainability Model drives the Sustainability Plan 2030 with the focus on the Physical Place: the buildings and campuses at which we work and learn; Collaboration: where we work together for real change and most importantly; Education: where we integrate sustainability into what we teach our students and learn as employees.

We have the tools and resources to develop a culture of sustainability at OCPS to reduce our impact on our planet, our budget and make a positive social impact in our community!



Students at Cypress Creek High School taking pride in their campus and learning valuable lessons in science, math, teamwork, operations and maintenance along the way!