




Sustainability Management Plan 2017



POUDRE
SCHOOL
DISTRICT



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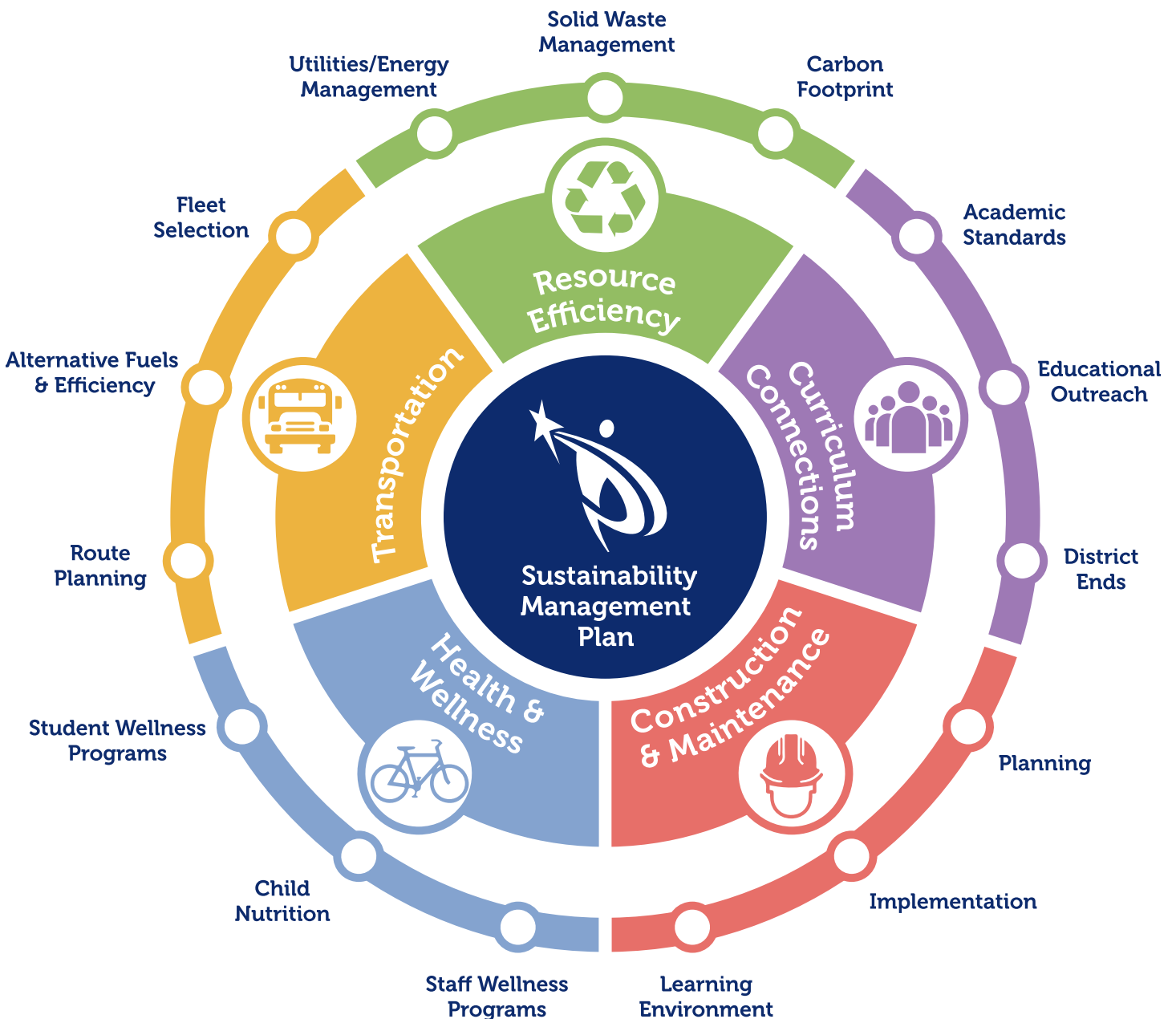
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Message from the Superintendent

“The district’s Sustainability Management System (SMS) began in 2006 with 17 departments; in the last decade since the SMS was adopted, it has expanded to 15 schools and 26 departments. Over this time, goals set by these schools and departments have defined a culture where sustainability is embraced and incorporated as a vital aspect to financial and educational goals. Whether it’s reducing paper use, improving health and wellness, or providing environmental education, PSD has demonstrated that each school and department can make a difference and will continue to make a difference for years to come.”

Dr. Sandra Smyser, Superintendent of Schools



About PSD

Poudre School District (PSD) was officially established in July 1960 and is the ninth largest district in the state of Colorado serving approximately 29,500 students and employing over 3,500 staff. PSD covers more than 1,800 square miles in northern Colorado, serving the communities of Fort Collins, LaPorte, Livermore, Red Feather Lakes, Stove Prairie, Timnath, and Wellington.

PSD is a top-performing district, consistently recognized nationally and at the state level for student and staff excellence.

- The PSD four-year on-time graduation rate is consistently above the statewide rate
- Numerous teachers and administrators have been selected as Colorado teachers or administrators of the year in their designated fields
- Many students have won state championships in science, history, and knowledge bowls, as well as in speech, debate, theater, and music
- PSD has two LEED certified buildings, over 40 Energy Star rated facilities, and supports operational sustainability in all areas of the district

The district owns approximately 1,295 gross site acres and maintains over 4 million square feet of building space. Its facilities include:

- 31 elementary schools
- 10 middle schools
- 4 comprehensive high schools
- 6 option schools
- 3 alternative high schools
- 4 charter schools
- 1 online school
- Preschool programs at over 20 locations



Sustainability in Poudre School District

Introduction and Background Information

PSD adopted a Sustainability Management System (SMS) in 2006, and built upon this SMS by publishing an *Annual Sustainability Report* highlighting sustainable accomplishments, innovative practices, and goals. In 2015, PSD began aligning the new Sustainability Management Plan (SMP) with the Green Ribbon Schools program pillars, elements of the City of Fort Collins' *Road to 2020 Plan*, the City of Fort Collins' ClimateWise program, and the PSD District Ends. Input was received from staff members and departments, community members, students, parents, the Institute for the Built Environment at Colorado State University, and Brendle Group.

Vision Statement

Poudre School District shall demonstrate a commitment to responsible stewardship of resources (natural, physical, material, and financial) while supporting the district's educational and operational needs in a changing world.

Tenets

The following tenets embody the foundation for the district's sustainability goals and strategies:

1. **Support** the district's educational mission by providing environments that promote student and staff health, productivity, and safety.
2. **Reduce** operational costs through energy and resource efficiency further supporting the district's educational mission and fiscal responsibilities.
3. **Balance** educational, financial, and conservation needs in both daily decision making and long range planning.
4. **Collaborate** with partner organizations and agencies on best practices that support education in a diverse and changing world.
5. **Measure and monitor** goals and strategies to ensure positive outcomes for the educational and built environment.



Foundation for the Sustainability Management Plan

The *Sustainability Management Plan* is built upon several elements including:

- ▶ [Board of Education District Ends](#), which are four key aspirational and visionary goals for the district
 - Foundations for Success
 - Success in a Changing World
 - Above and Beyond
 - Connections
- ▶ District Policy ECF – [Energy Conservation](#)
- ▶ U.S. Department of Education’s [Green Ribbon Schools](#) program pillars
 - Reduced Environmental Impact and Costs
 - Improved Health and Wellness
 - Effective Environmental and Sustainability Education
- ▶ Colorado Department of Public Health and Environment’s [Environmental Leadership Program](#)
- ▶ City of Fort Collins [ClimateWise Program](#)



Local, State, and Federal Recognitions

PSD has received numerous recognitions from local, state, and federal organizations, including:



[City of Fort Collins ClimateWise Program](#)

PSD has been a member of the City of Fort Collins ClimateWise program since 2006 and is currently a platinum partner. ClimateWise is a voluntary program with 100 organization members that helps Fort Collins businesses reduce their impact, save money and gain recognition for their achievements in energy and water conservation, waste reduction, alternative transportation and social responsibility.



[Colorado Department of Public Health and Environment's Environmental Leadership Program](#)

PSD has been part of the Environmental Leadership Program (ELP) through the Colorado Department of Public Health and Environment since 2008 and is currently at the Gold level. Over 160 businesses and educational organizations participate in the ELP.



[Energy Star Program](#)

In 2016, PSD had 41 schools and 1 office building earn an award through the EPA's Energy Star Program.



[U.S. Department of Education Green Ribbon Schools Award](#)

PSD received the U.S. Department of Education Green Ribbon Schools District Award in 2016 for demonstrating leadership and excellence in the three key pillars: Reduced Environmental Impact and Costs; Improved Health and Wellness; and Effective Environmental and Sustainability Education. PSD is the third district in Colorado to receive this award; three schools – Wellington Middle School (2012), Leshar Middle School (2013), and Kinard Middle School (2014) – have received individual school awards. Only one other school district in Colorado has received the same number of individual school awards.



Resource Efficiency



Introduction

Poudre School District is committed to reducing the use of natural resources by collaborating with the community, governmental agencies, design partners, and businesses to employ common sense reuse, engage in single stream recycling, participate in energy conservation, and implement current technologies in green building and operational efficiencies. As a member of the City of Fort Collins ClimateWise program, the district will continue to embrace energy conservation procedures, recognizing that reducing energy consumption has the largest impact on the district's greenhouse gas emissions. This *Sustainability Management Plan* extends the principles of sustainability across all district operations and provides an integrative and collaborative approach toward goals while supporting the district's educational mission and fiscal responsibilities.

Utilities/Energy Management



Using 2013 as a baseline, reduce district-wide site Energy Use Intensity (EUI) by an average of 2% per year through 2020.

Strategies

- ▶ Target goal for high schools at 40 kBtu/sf, middle schools at 35 kBtu/sf, and elementary schools at 35 kBtu/sf
- ▶ Lighting and daylighting
 - During design, orient classrooms to maximize daylighting with minimal heat and glare
 - Implement lighting controls to reduce electric lighting and encourage natural light as the primary source of illumination
 - Use blinds to reduce impact on daylighting
 - Develop an LED (light-emitting diode) lighting replacement plan for both interior and exterior lighting
- ▶ Building envelope
 - Review window size and location to provide natural cross-ventilation through the use of high efficiency glazing
 - Use insulation with an R-value of R-30 and R-24 for roofs and walls, respectively
- ▶ Reduce energy consumption
 - The Controls Department will turn off loads when buildings are unoccupied
 - Purchase Energy Star rated equipment and implement guidelines for use to reduce plug loads
 - Continue programming electronic devices to sleep after 15 minutes and hibernate after three hours
 - Implementation of cloud based servers
 - Investigate renewable energy sources such as photovoltaic (PV) systems

Term ✓

Energy Use Intensity is a building's energy use as a function of its size or other characteristics. A lower score equates to a more energy efficient building.

kBtu is a measure of heat and equals 1,000 British Thermal Units.

R-value is a measure of thermal resistance.



- Student and staff participation
 - Train building staff in measures to reduce energy consumption
 - Create written building occupant guidelines
 - Implement Green Teams at all middle and high schools
 - Participate in the [ReNew our Schools competition](#) during October 2017
 - Conduct nighttime audits to evaluate potential energy use reductions
 - Implement a dashboard system to monitor energy and water use, as well as renewable generation
- Process implementation
 - Use the mechanical systems decision matrix for new buildings and renovations which helps identify the best solution for a building based on cost, return on investment (ROI), energy use, and other factors
 - During construction, develop building specific checklist of conservation measures and procedures for building operation
 - Evaluate establishing a recommissioning program for existing buildings
 - Maintain commissioning with construction and renovation projects
 - Evaluate benefits of performance contracts through the Colorado Energy Office



Update building automation systems (BAS) starting in 2016 through 2020 to provide more consistency in energy management across the district.

Strategies

- Assure funding through capital and operating budgets to update BAS district-wide
- Develop plan to provide consistency across the district with respect to the BAS utilized



By 2021, design new construction to be net zero capable or ready with an Energy Use Intensity (EUI) target of 25.

Strategies

- Update and continue utilizing the 2005 *Sustainable Design Guidelines*
- Utilize local utility programs related to the integrative design process
- Conform to the 2015 International Energy Conservation Code (IECC)
- Implement operational guidelines such as defined controls strategies
- Perform commissioning on building envelopes, mechanical systems, and controls
- Reduce energy use through efficient envelope strategies and energy efficient technologies
- Orient buildings to take advantage of passive cooling
- Install on-site renewable generation
- Provide training for occupants on building controls and functions
- Monitor and measure metered data to confirm ongoing operational efficiency
- Replicate successes from previous construction and renovation projects



Term ✓

A **Net Zero energy** building produces as much energy as it consumes annually.



Develop a district-wide implementation plan for LED lighting.

Strategies

- Prioritize lighting projects to remove high-intensity discharge (HID) lighting and upgrade exterior lighting



Develop a district-wide renewable resource implementation plan during the 2017-18 school year.

Strategies

- Include retaining renewable energy credits for projects
- Collaborate with renewable energy providers on case studies for high energy use sites
- Investigate possible solar gardens
- Evaluate cooperative purchases with [Xcel Energy's Solar Rewards Community program](#)





During the 2017-18 school year, evaluate current district water use and develop a water conservation implementation plan outlining areas in which savings can be achieved.

Strategies

- Develop a raw water purchase analysis that includes plans and recommendations for existing sites as well as future site purchases
- Update the Site Landscape Guidelines to address plans and recommendations for water conservation and minimization at existing sites; best practices during drought conditions, including xeriscape opportunities; and top dressing and soil conditioning for athletic fields and green areas
- Review current fertilization schedules for athletic fields and other turf surfaces
- Evaluate needs for surfactant use to decrease turf watering requirements
- Review processes for opportunities to decrease potable water used for irrigation purposes
- Provide training for Outdoor Services staff on controls to minimize water waste
- Implement low flow devices on faucets and toilets
- Replace carpet in high traffic areas with lower maintenance materials
- Evaluate implementation of engineered water (ionization) for cleaning
- Evaluate floor stripping practices that require less chemicals and water
- Evaluate efficiency improvements to reduce water consumption for the bus wash
- Replace water-cooled compressors in kitchens



Solid Waste/Recycling



Achieve a waste diversion rate of 80% for new construction projects and 60% for renovation projects starting in 2017.

Strategies

- ▶ Assure contractor pricing includes recycling strategies
- ▶ Install multiple bins to address differing waste streams on site
- ▶ Define contractor responsibilities for waste minimization and recycling in project descriptions and *Technical Specifications*
- ▶ Review of waste management and recycling processes during Owner/Architect/Contractor (OAC) meetings



Achieve a district-wide combined (recycle and compost) waste diversion rate of 60% by 2020.

Strategies

- ▶ Provide annual training for students and staff at all sites
- ▶ Evaluate vendors available to help with hard to recycle items
- ▶ Implement a sustainable and educational process for composting
- ▶ Pursue grants and other donations for purchase of compost equipment
- ▶ Collaborate with the City of Fort Collins and Larimer County on infrastructure needs for composting
- ▶ Provide training and publish a guideline on what to shred versus recycle
- ▶ Develop waste and recycle strategies for athletic events and fields
- ▶ Waste reduction strategies include:
 - Develop paperless processes across district operations
 - Reuse discarded textbooks in secondary markets
 - Develop sustainable purchasing criteria
 - Continue to work with Child Nutrition programs to minimize food waste while complying with U.S. Department of Agriculture (USDA) requirements
 - Participate in the state-wide Food 1-1 Coalition, which aims to develop strategies and policies to reduce food waste in schools
 - Utilize the over 90 recycling containers that PSD was awarded through a grant from the Busch Company





Implement food waste reduction programs.

Strategies

- ▶ Evaluate lunch schedules at a site level to determine the feasibility of increasing lunch time or moving lunch time after recess
- ▶ Work with vendors on processes and practices that reduce food waste
- ▶ Donate food that is not utilized to local food banks
- ▶ Participate in Environmental Protection Agency (EPA) Food Recovery Coalition
- ▶ Implement a study through Colorado State University (CSU) that focuses on activities to reduce food waste
- ▶ Analyze production records to help minimize food waste



Carbon Footprint



Reduce greenhouse gas (GHG) emissions by 20% over 2005 baseline by 2020.

Strategies

- ▶ Energy savings
 - Optimize start/stop times and equipment sequencing on HVAC equipment
 - Optimize preventive maintenance programs such as filter changes, coil cleaning, and inspections on HVAC equipment
 - Assure reach-in coolers are off or set back during unoccupied times
 - Assure vending machines are off during unoccupied times
 - Participate in the 2017 [ReNew Our Schools](#) competition
 - Implement a renewable energy plan
 - Decrease the number of per person electronic devices, such as laptops and iPads, to reduce plug load



- Transportation
 - Review vehicle purchase process to “right size” vehicles to better match a vehicle to required tasks
 - Purchase vehicles with alternative fuels such as compressed natural gas (CNG), electric vehicles (EV) or propane
 - Work with Human Resources and Wellness Departments to establish an incentive program for employees for utilizing alternative transportation
- Purchase newer technology and equipment for Outdoor Services
- Processes
 - Continue to utilize agreements to control costs related to wholesale natural gas purchase
 - Update greenhouse gas tracking tool and include site EUI data in tracking
 - Implement program to assure Energy Star rating when purchasing appliances

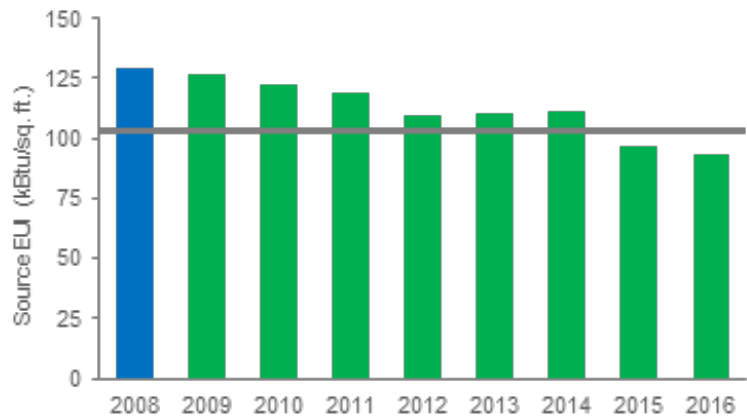


Successes and Accomplishments

PSD recognizes that GHG emissions are tied to energy use, waste, transportation, and water. Funds dedicated to energy efficiency have supported many projects resulting in significant achievements in resource efficiency and reduced GHG emissions.

Progress includes:

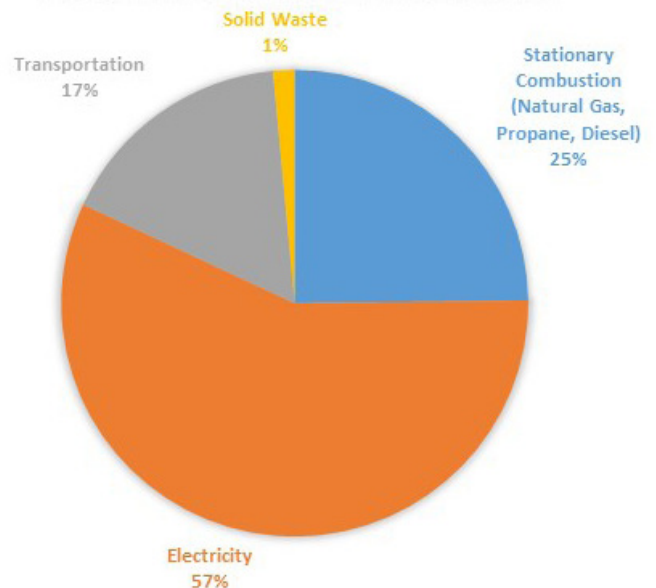
- 25 lighting projects
- Improving district-wide EUI by 28% based on benchmarking with Energy Star Portfolio Manager
- Reducing electric usage by 2,399,457 kWh annually, which equates to a decrease of 1,898 tons of CO₂
- Reducing natural gas usage by 383,804 CCF annually which equates to a decrease of 2,138 tons of CO₂
 - Note: The above energy savings occurred while PSD increased its square footage by 18% from 3,677,951 in 2005 to 4,118,421 in 2015



PSD collaborated with organizations for rebates and technical assistance, which resulted in:

- \$9,000 in rebates from Efficiency Works and Xcel Energy
- 41 schools receiving Energy Star certifications
- Training district staff on the City of Fort Collins [Lose-A-Watt](#) program
- Savings of 35,100 kWh and rebates of \$14,720 from the 2016 major renovation HVAC work at Lincoln MS
- Participation in the Colorado [ReNew Our Schools](#) program energy challenge in October 2017
- Evaluating participation in Xcel Energy's Community Solar Program

PSD GREENHOUSE GAS EMISSIONS 2016



PSD is reducing energy use by improving controls and automation systems to better meet occupancy needs while reducing demand. Specific examples include:

- ▶ District computers are programmed remotely to sleep or hibernate overnight, reducing energy use by up to 50%
- ▶ Chiller set points and operating functions were reprogrammed for more efficiencies in ice storage at Bacon ES and Fossil Ridge HS
- ▶ Utilized economizer functions at sites with no mechanical cooling when outside air temperatures allowed

Since 2008, PSD has reduced water consumption by 6%. This progress was supported by indoor fixture retrofits to more water efficient urinals and toilets, reduced demand for irrigation with native and drought tolerant landscaping, and improved irrigation. Specific examples include:

- ▶ Native and drought tolerant landscaping is in use at Bacon ES, Bethke ES, Kinard MS, and Zach ES
- ▶ Artificial turf surfaces are in use at Dunn ES, Fossil Ridge HS, Harris ES, Kinard MS, and French Field
- ▶ Use of precision spray nozzles on irrigation systems reduce water use by 33% to 50% per zone
- ▶ Third grade students attend the annual Children's Water Festival sponsored by the City of Fort Collins Utilities Department and Northern Colorado Water Conservancy District
- ▶ Elementary students learn about water conservation through Dr. WaterWise offered by the City of Fort Collins

Note: In 2016, PSD implemented new HVAC strategies, including longer run times, accounting for the increase in greenhouse gas emissions

Recent Upgrades to Reduce GHG Emissions

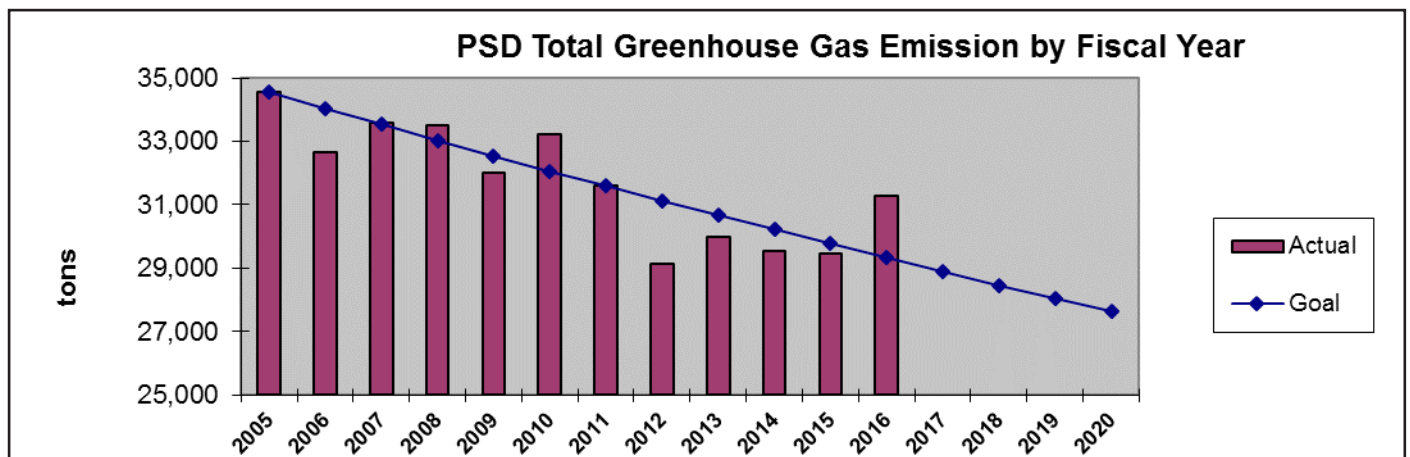
- ▶ Replaced T-5 fluorescent fixtures with LED fixtures at Rice ES
- ▶ Replaced three 70-watt high-pressure sodium (HPS) fixtures at Wellington MS with three 12-watt LED fixtures
- ▶ Virtualized 70% of the Information Technology data center using cloud-based servers
- ▶ Converted 100% of outdated existing AX software to new and more secure N4 software allowing for better system access by HVAC technicians to ensure buildings are running efficiently

Programs and Initiatives to Reduce Waste

- ▶ Annual waste audits were conducted by a third-party waste and recycling hauler to identify areas of improvement
- ▶ For new devices, the IT Department requests coffin packaging in which multiple devices are shipped in one container with minimal packaging, instead of being shipped individually
- ▶ [Students from Kinard CARES produced a video to encourage composting](#)

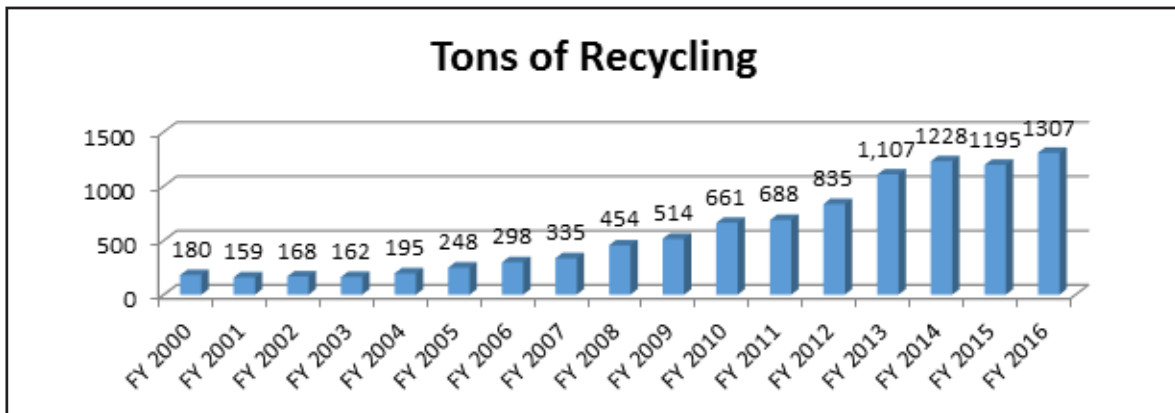
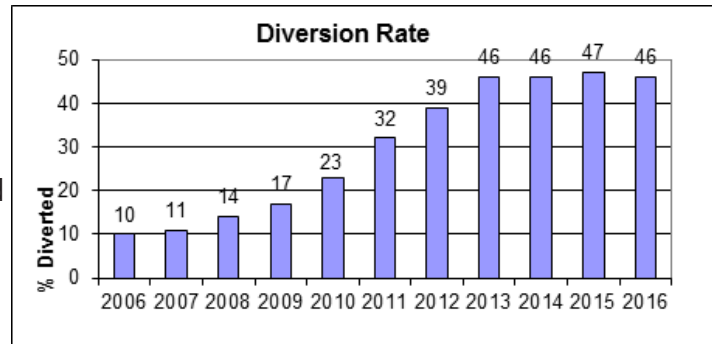
Awards

- ▶ Achieved Platinum membership level from City of Fort Collins ClimateWise
- ▶ Maintained Gold status with the Colorado Department of Public Health Environmental Leadership Program



Through active recycling and waste reduction programs, PSD has increased its diversion rate from 10% in 2006 to 46% in 2016. Solid waste has decreased by almost 50% over the 2005 baseline year resulting in a 46% reduction of greenhouse gas (GHG) emissions from waste disposal. PSD has reduced GHG emissions by 9.5% overall for a total reduction of over 4,000 tons of CO₂ emissions over the 2005 baseline. Specific project examples include:

- During the Laurel ES major renovation, 29 tons of metal materials were recycled and all carpet removed was recycled
- 57% of the material from the Lincoln MS major renovation project was recycled
- 43,240 pounds of metal were recycled during the major renovation at Preston MS
- The Electrical Department recycled 50 pounds of cardboard, 100 pounds of metal, and 75 ballasts





Construction & Maintenance



Introduction

PSD's *Sustainable Design Guidelines* provide a framework for desired performance outcomes for construction, renovations, and maintenance and illustrate sustainable design strategies and concepts to employ during planning and design. Long range planning is one element of PSD's work to maintain facilities that support positive learning environments for students and staff in every building. New buildings and renovations comply with all applicable codes and regulations at local, state, and federal levels.

Learning Environment



Consider achievable methods to improve the learning environment.

Strategies

- ▶ Address instructional needs as determined by the School Services Department
- ▶ Assure proper implementation of code requirements, including energy, building, fire, and health codes
- ▶ Work with School Services to understand the educational concepts required in new construction and renovation projects

Project Planning



Continuous review and update of planning and specification documents.

Strategies

- ▶ Review and update *Technical Specifications* annually
- ▶ Review and update the *Sustainable Design Guidelines* every 5 years
- ▶ Review and update *Educational Specifications* as needed
- ▶ Competitive procurement based on performance instead of prescriptive requirements
- ▶ Update all Asbestos Management Plans by December 31, 2020
- ▶ Review and update the Ongoing Facilities Improvement List monthly with input from Operations departments



Project Implementation



Use a sustainable design checklist as a part of new construction and renovation projects starting in 2017.

Strategies

- ▶ All projects (new or renovation) should be evaluated against criteria from one of the green building certifications such as LEED, Energy Star, BREEAM, or WELL Building Standard (see definitions on page 37 for more information)



Construct and maintain high performing facilities using existing and emerging technologies while balancing educational, financial, and conservation needs.

Strategies

- ▶ Review mechanical equipment options such as:
 - Ground source heat pumps
 - Mezzanine installations for mechanical equipment
 - Variable refrigerant flow (VRF)
 - Chilled beam
 - Demand control ventilation
 - Size of mechanical space for ease in working on and replacing equipment
 - Aquatherm pipe
- ▶ Review building envelope efficiency strategies including:
 - Glazing
 - Solar orientation of building
 - Daylighting
 - Solatubes
 - Roof reflectivity
 - Integrative design for tight building envelope to allow proper sizing of building systems
- ▶ Upgrade building automation systems
 - Install energy management systems to aid in plug load reductions and load shedding
 - Analytics dashboards





Successes and Accomplishments

Construction and maintenance is a key aspect of the district's efforts to create positive learning environments for all students and staff, and the district has realized significant accomplishments in this area. PSD has annual Larimer County Health Department audits and district-wide chemical disposal activities, and annually reviews its *Technical Specifications* to ensure the best technology is incorporated into district buildings. Specific projects include:

- Converted three general education classrooms at Fossil Ridge HS to science rooms
- Converted two general education classrooms at Beattie ES to Early Childhood rooms
- Converted a general education classroom at Rocky Mountain HS to a science room
- Converted two storage areas at Fort Collins HS to break out areas used for meeting student needs
- Installed a geodome at Rocky Mountain HS
- Installed an archery range in the batting cage at Poudre HS
- Installed four Early Childhood playgrounds

Long range planning efforts culminated into the 2016 Bond Program, which will invest in ongoing facility improvements and fund the construction of new schools, athletic facilities, and transportation facilities. Additional coordination includes:

- A checklist collaboratively developed between Planning, Design & Construction and Facility Services
- Updating Asbestos Management Plans for 11 sites
- Updating the district's Spill Prevention, Control and Countermeasure (SPCC) Plan in response to changes in operations
- Incorporating the 2015 International Energy Conservation Code into construction, renovation, and maintenance projects
- Implementing commissioning processes on major system replacement projects





Transportation



Introduction

PSD transports 13,000 students, or 48% of the student population, to 86% of district schools daily. More than 150 school buses run approximately 1.8 million miles per year, including extra-curricular trips. Idling guidelines have been implemented for all district vehicles based on recommendations from the Environmental Protection Agency (EPA) and the American Lung Association and are intended to reduce idling times, decrease vehicle emissions, and provide healthier environments for students, staff, and the community. All buses are outfitted with GPS tracking systems to increase route efficiencies, improve scheduling, and decrease vehicle miles traveled. Collaboration occurs with the City of Fort Collins and Larimer County to provide efficient use of transportation infrastructure within the community.

Fleet Selection



Right size support fleet vehicles based on job type and travel requirements.

Strategies

- ▶ Annual review of support fleet by Transportation to determine replacement needs and priorities

Alternative Fuels and Efficiency



Convert 25% of district fleet to alternative fuels within the next 10 years.

Strategies

- ▶ Apply for grants for propane and compressed natural gas (CNG) buses
- ▶ Cooperate with local utilities for alternative fuels infrastructure use
- ▶ Purchase electric vehicles for local trips



Support reduction of greenhouse gas emissions by 20% by 2020 as compared to 2005 baseline.

Strategies

- ▶ Better marketing of the idling guidelines to staff and parents
- ▶ Implementation of new diesel technology
- ▶ Investigate use of renewable diesel made from animal byproducts



Route Planning



Develop a plan to assure efficiencies of bus operations.

Strategies

- ▶ Establish ridership percentage benchmark through use of route tracking software
- ▶ Analyze bus route efficiencies using route tracking software programs
- ▶ Use of bus transfer process for rural student transport



Collaborate with the City of Fort Collins on transportation programs.

Strategies

- ▶ Collaborate with the City of Fort Collins Safe Routes to School program
- ▶ Invest in pedestrian improvement projects, such as curb cuts and pathways, to provide safer routes to schools
- ▶ Collaborate with the City of Fort Collins Traffic Operations Department to conduct traffic studies at district sites as needed
- ▶ Collaborate with City of Fort Collins Transfort on shared route opportunities
- ▶ Continue installation of bike repair stations at all schools
- ▶ Secure grants for installation of “Boltage Counters” at schools to log alternative transportation numbers for both pedestrians and bikes



Successes and Accomplishments

Transportation is a major factor for achieving PSD's GHG reduction goals. As such, efforts have been made to right size the fleet and make it as efficient as possible. Specific accomplishments include:

- Introduction of an electric vehicle (EV) into the Security Department and installation of two EV charging stations
- Replacing trucks with smaller utility vans in the Building Maintenance Department
- Purchasing 6 propane buses in spring 2017
- Purchasing buses with clean diesel technology, which reduces emissions by 99% for nitrogen oxides and 98% for particulate emissions
- Implementation of tracking software to monitor compliance with district idling guidelines
- Participating in Northern Colorado Clean Cities initiatives
- Utilizing software for efficient route tracking and planning





Health & Wellness



Introduction

PSD integrated health and wellness into its sustainable mission in 2010, recognizing how district facilities influence physical and mental wellness as a whole. Health and wellness helps to foster and support sustainability goals by working to develop partnerships with local public health groups, encouraging walking and biking to school, and educating students and staff on wellness topics. Guided by the district's Wellness Department, support for health and wellness is evidenced by having a district policy specific to student and employee wellness, a Wellness Advisory Council for Students, an Employee Wellness Advisory Council, a self-funded wellness clinic, and on-site health screenings.

The Child Nutrition Department oversees 45 kitchens preparing 2.2 million high-quality meals annually. School meals, including breakfast and lunch, are well-balanced and healthy, exceeding federal nutrition standards. Kitchens prepare meals daily mostly by scratch – a safer, higher quality option.

PSD works closely with the City of Fort Collins on the Safe Routes to Schools program to provide safe walking and biking routes to schools. Over 22% of students have taken part in bicycle safety education, and bicycle repair stations have been installed at all middle and high schools.

The Security Department promotes an inclusive and safe climate through proactive and innovative services, relationships, and communication. Campus Security Officers (CSOs) and School Resource Officers (SROs) help keep students safe. All schools and buildings follow the district's Crisis Response & Management Manual and have school crisis plans in place. Schools conduct all-hazard drills and district staff are trained on emergency response procedures.



Student Wellness Programs



Implement programs to promote student health and wellness.

Strategies

- Implement student wellness teams at every school
- Implement Kinesthetic Classrooms to promote movement-based learning
- Implement Healthy Schools Certification Program, which recognizes and celebrates school communities for promoting and enhancing the health and well-being of students, school staff, and community
- Explore grants for school physical activity and nutrition programs

Staff Wellness Programs



Implement cost efficient wellness programs for PSD staff.

Strategies

- Offer free lifestyle management and fitness classes through Miramont
- Have an employee health clinic with low or no cost deductibles
- Offer free Employee Assistance Services to staff
- Offer free biometric screenings, on-site flu shots, and health risk assessments
- Offer free chronic disease management to employees
- Provide discounts or incentive points for employees for using alternative transportation
- Link Wellness to benefits premiums on medical plans
- Implement Mindful Practice training for staff
- Add chiropractic and acupuncture treatments to medical plans

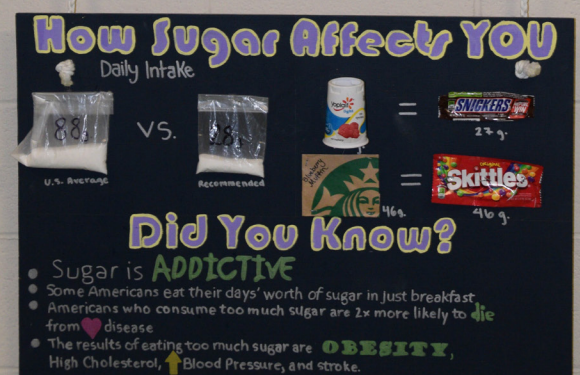
Child Nutrition



Continue to serve meals that meet or exceed USDA nutritional criteria and food safety standards.

Strategies

- Support farm to school efforts to bring local Colorado grown and produced ingredients to cafeterias
- Incorporate food grown in site gardens into meals
- Continue to offer six to eight fruits and vegetables at lunch
- Offer high quality ingredients, including less processed items, preservatives, additives, sodium, and no trans fat





Increase participation in the Child Nutrition program through enhanced marketing tools.

Strategies

- Provide taste testing activities for students and staff
- Host cooking competitions to determine student and staff taste preferences
- Enhance use of the district website to post pictures of food choices and menu options
- Use local food products to promote a sense of community and support



Implement operational controls to minimize energy consumption in kitchens.

Strategies

- Benchmark installation of electronically commutated motors (ECM) on walk-in coolers at Kruse and McGraw Elementary Schools
- Evaluate maintenance and utility costs related to keeping equipment on and increasing set points versus turning equipment off during summer
- Preventive maintenance programs to assure proper calibration of equipment
- Purchase Energy Star rated equipment
- Create guidelines that discourage use of ovens to heat space
- Review fixed asset audits to determine opportunities for replacement of inefficient equipment and removal of unneeded equipment





Successes and Accomplishments

PSD's efforts to improve student and staff health and wellness were recently recognized by the American League of Bicyclists, who named PSD a bike friendly organization. PSD is a Certified Health Links Business Leader, which recognizes organizations for their commitment to improving their health and safety practices. PSD sources food products locally - 99% of dairy products come from local dairies and 20% of all food purchased is made, grown, or produced in Colorado. PSD has also provided resources and improved education by completing the following:

► Resources

- 12 new bike racks were installed at six schools
- PSD supports homeless students through the McKinney-Vento Homeless Assistance Act; this program helps over 1,000 students with transportation and other educational needs
- All first grade students at Irish ES received new bikes through the CAN'd Aid Foundation
- Integrated Health Management Systems (IHMS) to support employees in all aspects of health and wellness
- Over 20 free health and wellness classes available for staff each month
- \$40,000 spent annually on health and wellness incentives for staff; over 400 employees have participated
- A self-funded health clinic is available to staff, averaging 20 visits per day

► Education

- 20% of district students take part in activities such as bike rodeos, bike field trips, and bike safety education
- Each school site has a Wellness Advisory Committee
- PSD participates in the UC Health Kids Club Schools on the Move 5210 Challenge, where students and staff keep track of their activity minutes and other healthy habits
- Each fall and spring, PSD offers a community mental health night that focuses on mental health topics pertaining to students, such as anxiety, body image, depression, self-harm, and grief

Healthy School Champions from the Colorado Education Initiative

Beattie ES received the excellence award and transformed their school schedule after internal research indicated that putting recess before lunch would benefit students. The Wellness Committee purchased two hydration stations and Beattie ES has hosted over 45 wellness events and activities.

Irish ES received the excellence award and launched a new bike club for students. The school hosts a weekly walking club and collaborates with local businesses to meet student physical, emotional, and social needs.

Shepardson ES received the promising school award for organizing healthy events that impact the entire school community.

Dunn ES received the promising school award for making several healthy changes at school including adding a school garden, and hosting yoga, taekwondo, and running clubs at school.



Curriculum Connections



Introduction

The District Ends define the vision and direction of PSD and provide guidance in curriculum development, program planning, and experiences that ensure academic success while reflecting the expectations of a changing world. With student achievement as PSD's first priority, sustainability has been integrated into the classroom through collaboration with administrators, teachers, staff, and outside entities to establish learning opportunities. For example, science standards for all students include "experience the richness and excitement of observing and understanding the natural world" and social studies focuses on "understanding of how humans interact with each other and with the environment over time." PSD connects state standards to important community sustainability issues, such as air quality and alternative energy and transportation. This was recently demonstrated by the Fossil Ridge HS FRESH (Fossil Ridge Energy Savings High) Club Environmental Leadership Summit, during which over 250 students from Colorado schools learned how they can make a positive impact on local and world environmental issues.

Academic Standards



Maximize use of educational resources in the local community.

Strategies

- ▶ Expand Front Range Community College course options for students
- ▶ Collaborate with the City of Fort Collins Utilities Department on:
 - Dr. WaterWise courses
 - Volt Busters courses
 - Annual Children's Water Festival
- ▶ Participate in [ReNew Our Schools](#) through the Center for Resource Conservation
- ▶ Courses provided through PaCE (Professional and Community Experience)
- ▶ Internships provided through the Post-Secondary Workforce Readiness Program
- ▶ Job shadowing opportunities through the Work-Based Learning Program





Implementation of more digital curriculum and expeditionary learning.

Strategies

- Expand strategies that address the [District Ends](#)
- Develop a strategic plan on effective use of blended learning within classrooms
- Ongoing implementation of outdoor classrooms/ gardens
- Integrate food grown in gardens into lunch programs



Implementation of Career Pathways using Colorado Career Cluster Model to support environmental education programs.

Strategies

- Connect students to their interests through Career Pathways
- Provide course work in Areas of Focus for each high school
 - Poudre HS – Agricultural
 - Fort Collins HS – Biotech
 - Fossil Ridge HS – STEM
 - Rocky Mountain HS – Service Learning
- Link Career Pathway opportunities to student’s Individual Career and Academic Plan (ICAP)

Term ✓

District Ends

Foundations for Success: Colorado Academic Standards/Wellness

Success in a Changing World: Post-Secondary Readiness

Above and Beyond: Individual levels of excellence for students

Connections: Academically and socially connected to the school community



Educational Outreach



Implement programs to support outreach opportunities related to sustainability.

Strategies

- ▶ Provide certificate level programs through Career and Technical Education (CTE)
- ▶ Provide Professional Development opportunities in sustainability for staff
- ▶ Implement a sustainability section for New Employee Orientation for both classified and certified staff
- ▶ Support the April 2017 Fossil Ridge HS FRESH Club Environmental Leadership Summit by providing financial and resource support
- ▶ Provide industry certification programs through ServeSafe and Solid Works in the areas of IT, health care, and food service



District Ends



Students are academically and socially connected to school and the community to support individual pursuits and interests.

Strategies

- ▶ Community internships
- ▶ Work based programs
- ▶ Workforce development pathways
- ▶ Implement green teams or environmental clubs at all middle and high schools and in a minimum of 20% of elementary schools
- ▶ Construct buildings that teach and offer tours for community and CSU students
- ▶ Work with organizations such as Colorado Alliance for Environmental Education (CAEE), Colorado Energy Science Center (CESC) and City of Fort Collins Utilities to assist in development of sustainability curriculum and modules for students and staff
- ▶ Survey students and staff to determine successes and needs related to sustainability within the district
- ▶ Implementation of programs such as Geometry in Construction that provide students awareness of and access to careers in sustainability





Successes and Accomplishments

With student achievement as its first priority, PSD has worked to maximize educational resources in the local community, implement a more digital curriculum with expeditionary learning, and improve communications and connections internally and externally. Some specific examples include:

- “The Walking Classroom” program enables students take 20 minute walks while listening to podcasts on topics focused in science, social studies, and language arts
- Middle school students participate in Global Explorers field trips and River Watch activities
- Students participate in “Academics in Action” programs to engage students who are kinesthetic learners
- The City of Fort Collins Utilities Department has worked with over 30 schools to provide hands-on, curriculum based classes, programs, and events for students.
- PSD has implemented a Career Pathways program with areas of focus at each high school
- More than 400 students and families attend the first Career Exploration Night listening to Dr. Rich Feller, a professor of career development from Colorado State University. Based on the Colorado Career Cluster Model, breakout sessions provided information on over 40 different careers including medicine, teaching, and engineering, and offered details about how to prepare for each career, educational requirements, and projected salaries.
- Each year PSD hosts the Summer Institute, which provides teachers with training opportunities in a variety of topics including the local watershed and tours of business to provide real life connections to career pathways
- Fifth grade students participate in Eco Week with excursions to the mountains to engage in hands-on ecological lessons, guided nature hikes, and stream ecology
- Community internships are offered through the Post-Secondary Workforce Readiness Program



Closing Statement

“Sustainability is grounded in innovation, creative thinking, and collaboration within the global economic context. Educators in Poudre School District are continually pushing their practices to support students in sustainability and in being good stewards of our resources. As PSD continues to build upon a strong foundation and commitment to sustainability, we look forward to working with students, staff, and the community to establish a path toward our long-term sustainability goals.”

Robert Beauchamp, Director of Curriculum, Instruction & Assessment



Definitions

- B** BAS – Building Automation System – computerized method of controlling building systems such as heating/ventilation or lighting schedules/operations
- BREEAM – Building Research Establishment Environmental Assessment Method – method of assessing, rating, and certifying the sustainability of buildings; it addresses a number of lifecycle stages such as new construction, refurbishment, and in-use
- C** CHPS – Collaborative for High Performing Schools – national movement to improve student performance and the entire educational experience by building the best possible schools using specific criteria
- CNG – Compressed Natural Gas – alternative to gasoline made by compressing natural gas to less than 1% of its volume at standard atmospheric pressure, consisting mostly of methane and contains fewer undesirable gases than petrol, diesel and propane
- D** Daylighting – designing buildings for maximum effective use of daylight including factors such as glare, evenness of light, and coordination with electric lighting
- Diversion Rate – percentage of waste material diverted from being disposed of in a landfill
- DOAS – Dedicated Outdoor Air System – type of heating/ventilation/air conditioning system that consists of two parallel systems: a dedicated system for delivering outdoor air ventilation but also requires a parallel sensible cooling system to handle the other building loads (radiant ceiling panels, variable air volume (VAV) systems, heat pumps, or fan coil units)
- E** ECM Motors – Electronically Commutated Motor - sometimes referred to as variable speed motor, RPM of the motor varies in response to changing conditions in the system in which it is installed; raises efficiency of equipment and helps to maintain a programmed air flow
- EPA – Environmental Protection Agency – office of federal government that passes regulations to protect humans and the environment
- EUI – Energy Use Intensity - a building's energy use as a function of its size or other characteristics, expressed as energy per square foot per year, calculated by dividing the total energy consumed by the building in one year (measured in kBtu) by the gross floor area of the building
- G** GHG – Greenhouse Gases– gases that trap heat in the atmosphere such as carbon dioxide (CO₂), methane (CH₄), Nitrous Oxide (N₂O), and Fluorinated gases
- H** HID – High Intensity Discharge Lamps – electrical gas-discharge lamp producing light by means of an arc between tungsten electrodes housed inside a translucent or transparent fused quartz or fused alumina arc tube that is filled with gas and metal salts
- I** IPM – Integrated Pest Management – controlling insects, rodents and other pests using an ecosystem approach to pest control and prevention, minimizes the use of pesticides and toxic materials that are harmful to the environment and/or human health
- K** kBtu – 1,000 British thermal units – the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit

L LED – Light Emitting Diode – two lead semiconductor light source, light sources that have lower energy consumption, longer lifetime, improved physical robustness, smaller size and faster switching than incandescent light sources; more energy efficient than fluorescent lights

LEED – Leadership in Energy and Environmental Design – rating system and framework used by project teams to create healthy, highly efficient, and cost saving green buildings, a globally recognized symbol of sustainability achievement

N Net Zero Energy Building - produces as much energy as it consumes over the course of a year. Net Zero energy buildings use passive strategies such natural ventilation and daylighting, offer superior comfort, are healthier to work in, are more resilient to the impacts of climate change and are less vulnerable to the instability of energy prices.

O OAC – Owner, Architect, Contractor

R R-Value – R-value is a measure of thermal resistance, or the ability to prevent the transfer of heat

Renewable Energy – energy generated from naturally replenished resources, such as sunlight, wind, rain, and geothermal sources

S Safe Routes to School – federal grant program designed to promote safety in bicycling and walking to schools administered through the City of Fort Collins and the Colorado Department of Transportation

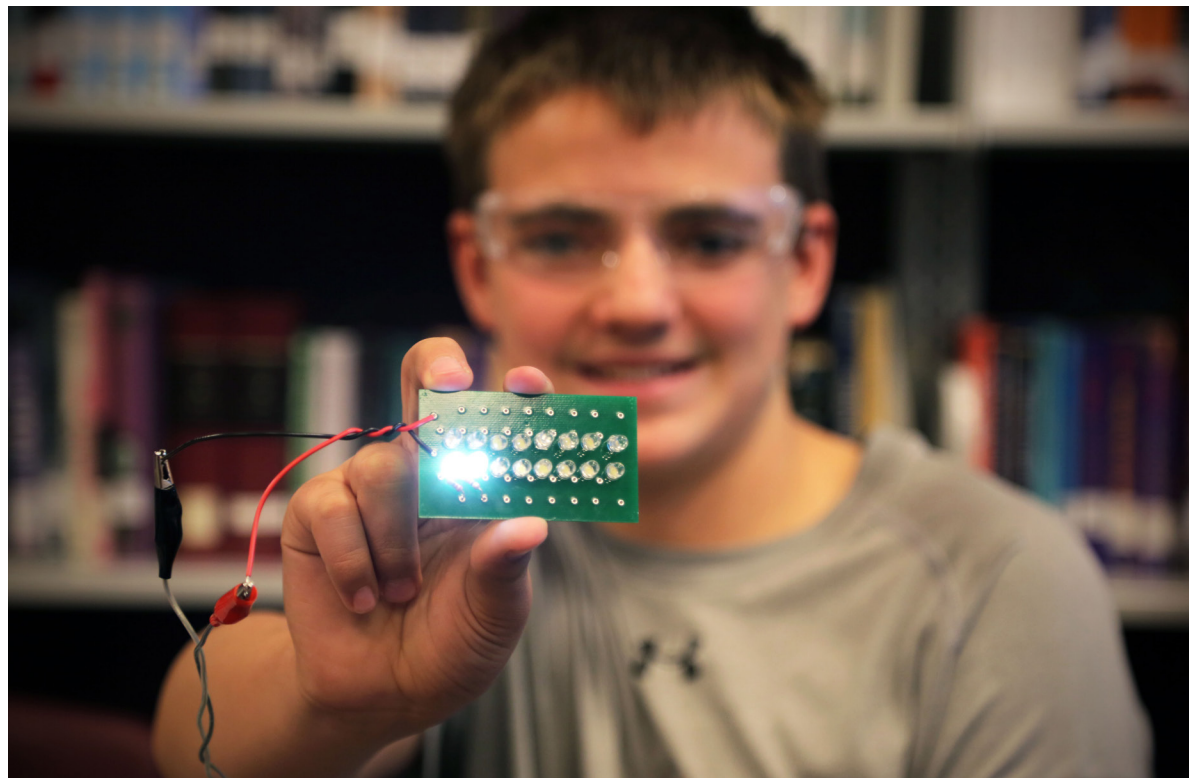
Sustainability – meeting the needs of the present without compromising the ability of the future generations to meet their needs

T Tenets – a belief or principle

V VAV – Variable Air Volume – type of heating, ventilation or air-conditioning system that varies the air flow at a constant temperature

VUV – Vertical Unit Ventilator

W WELL Building Standard – leading tool for advancing health and well-being in buildings and communities globally, the standard uses innovative, research-backed strategies to advance health, happiness, mindfulness and productivity in our buildings and communities



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Departments

- › [Athletic Services](#)
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- › [Benefits Services](#)
- › [Carpentry](#)
- › [Child Nutrition](#)
- › [Communications](#)
- › [Curriculum, Instruction & Assessment](#)
- › [Custodial Services](#)
- › [Customer Support Center](#)
- › [Employee Assistance Services](#)
- › [Energy & Environmental Management](#)
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- › [Outdoor Services](#)
- › [Painting](#)
- › [Planning, Design & Construction](#)
- › [Plumbing](#)
- › [Purchasing & Materials Management](#)
- › [Security](#)
- › [Theater Maintenance](#)
- › [Transportation Services](#)
- › [Wellness](#)

Schools

- › [Boltz MS](#)
- › [Centennial HS](#)
- › [CLP MS](#)
- › [Dunn Elementary](#)
- › [Fort Collins HS](#)
- › [Fossil Ridge HS](#)
- › [Kinard MS](#)
- › [Leshar MS](#)
- › [Lincoln MS](#)
- › [Polaris Expeditionary Learning School](#)
- › [Poudre HS](#)
- › [Preston MS](#)
- › [Rocky Mountain HS](#)
- › [Webber MS](#)
- › [Wellington MS](#)

Other Partners

- › [City of Fort Collins Utilities](#)
- › [City of Fort Collins ClimateWise](#)
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- › [Platte River Power Authority](#)
- › [U.S. Department of Education Green Ribbon Schools Program](#)



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