EXECUTIVE SUMMARY:

Loudoun County Public Schools
Broadlands, Virginia

LCPS is the third largest school district in Virginia; with over 73,000 students attending 87 schools. LCPS operates facilities totaling over ten million square feet. In 20 years, LCPS has saved over $60 million on utility costs. During this time, energy use reductions represent the elimination of over 286,000 metric tons of carbon dioxide emissions. This is equivalent to removing more than 59,000 cars from the road for a year or over 7.3 million tree seedlings grown for ten years. The program is focused on conservation: individual’s efforts to reduce energy use; and efficiency: technologies and equipment which assist people in their efforts. People use energy, not buildings; their relationship to energy consumption and interactions with technology allow LCPS to succeed.

- LCPS has forty-seven 2014 ENERGY STAR certified schools; six of which earned their first certification this year.

- LCPS joins EPA in celebrating 20 years of ENERGY STAR buildings by sharing a success story as a premiere member of the ENERGY STAR Certification Nation.

- In 2014, two schools confirmed as “Designed to earn the ENERGY STAR” earn an ENERGY STAR certification after a year of operation. This brings the total to three; six more schools are on the way soon. LCPS promotes “Designed to earn the ENERGY STAR” regionally.

- The Governor of Virginia recognizes the value of LCPS participation in ENERGY STAR, among other sustainability actions, by awarding the district a Governor’s Environmental Excellence Award Silver Medal in 2014 and sending a letter of congratulations to all LCPS ENERGY STAR certified schools.

- Although there has been unprecedented senior leadership change within the structure of LCPS, the value of the partnership with ENERGY STAR remains intact.

“Every dollar that pays an unnecessarily high energy bill could be spent for a much better purpose – teaching children.”
Section 1 – Energy Management Practices 35 points

2014 has been another excellent year for the LCPS Energy & Environment Program. In this year’s application, the program assessment matrix will be used to demonstrate continued immersion in the ENERGY STAR Guidelines for Energy Management. In past applications, LCPS has always taken the time to explain how a strong adherence to these fundamentals is the foundation of our success. 2014 is no exception to that, however, in this year’s application, standard activities that occur year after year will not be the focus. Instead, we will be presenting this year’s program highlights. Throughout this application, there are a number of items that have pictures or other graphics to expand on the topic. All headings that include a blue star like the one that follows: ★ will have supporting materials included in the supplemental document.

The past two years have been marked by changes in leadership for LCPS. In March of 2013, we started with a new Assistant Superintendent for Support Services. Then in August of 2013, LCPS hired a new Director of Facilities Services. The culmination of leadership change occurred in July of 2014 when a new Superintendent was appointed. All levels of LCPS senior leadership that include energy conservation and efficiency in their direct sphere of influence have changed recently.

Having a focus on maintaining our empowered organizational leadership team of two Energy Education Specialists with senior management support is a part of what makes this year unique. During the first part of 2014, the LCPS ENERGY STAR partnership was evaluated. LCPS continues to value this partnership because it clearly communicates that our organization is committed to the effective stewardship of public resources, both environmental and financial. The following reflect a sampling of our organization’s strongest examples of incorporating ENERGY STAR tools and resources into the LCPS program from 2014:

Portfolio Manager
This year LCPS has added water consumption data for all of our facilities to go along with the energy data that LCPS previously entered for all facilities. Portfolio Manager has the actual utility data for every meter at every LCPS location for the last twenty years. In order to provide transparency, we have often shared our ENERGY STAR Portfolio Manager Guest account. Login: lcpsguest Password: READonly!

ENERGY STAR Products and Procurement
LCPS opened three new schools this year and once again purchased ENERGY STAR rated appliances throughout the buildings, according to LCPS design specifications.

ENERGY STAR Building Certification
In 2014, 47 LCPS facilities earned ENERGY STAR certifications. This is the greatest number of certifications that LCPS has earned in a single year. This is well above the seven earned in 2008 when LCPS began the process of certifying buildings. Each year LCPS has continued to make progress on its goal of earning an ENERGY STAR for all of its facilities; the progression of stars per year is as follows: 2008 - 7, 2009 - 24, 2010 - 36, 2011 - 39, 2012 - 42, 2013 - 45, and 2014 - 47. LCPS has earned a total of 240 ENERGY STAR building certifications. Over sixty percent of LCPS schools have earned an ENERGY STAR certification for at least one year.
Designed to Earn the ENERGY STAR

In 2014, Champe HS and Douglass ES, which were “Designed to earn the ENERGY STAR,” earned an ENERGY STAR certification. These two schools, along with Lunsford MS in 2013 demonstrate that the process of design, construction and operations within the ENERGY STAR program is a focus in LCPS. In fact, LCPS School Board Policy § 6-41 includes the statement: “Facility operations and systems performance shall be monitored, measured and verified via the EPA ENERGY STAR Program.”

ENERGY STAR Awards (Partner of the Year & Sustained Excellence)

To be recognized as a leader amongst one’s peers on a national level is very powerful. The past five years of LCPS ENERGY STAR Awards represent a strong statement of support from the EPA. Striving to repeat this honor is a clear goal that has inspired LCPS to seamlessly integrate ENERGY STAR at every level, from the board room to the boiler room.

★ Change the World, Start with ENERGY STAR Pledge

In 2014, LCPS added the ENERGY STAR pledge to many of the outreach and communication activities that were held. LCPS worked together with EPA to create a paper form that aligned with the on-line pledge driver page. The ENERGY STAR pledge helps people realize that the tools and tactics used in LCPS can be brought home. Helping people at home creates champions in LCPS facilities.

★ Building Profiles

This year, LCPS began the process of updating the profiles of all our certified buildings. The first step was to add a picture for each building and to add existing building descriptions provided by architects or engineers. Enhancing the profiles will be an ongoing process, however, the first steps were taken this year.

This year there were also several new elements or enhancements made to the LCPS Energy & Environment program that will be highlighted below:

Capital Asset Preservation Program Projects

Two LCPS schools have earned ENERGY STAR certifications for the first time. Both of these schools had been able to meet the energy use pre-requisite for many years, but neither of them were able to meet the ventilation requirements. LCPS prudently made the investment to replace HVAC systems that reached end-of-life at these schools with equipment that not only was more efficient, but also allowed the school to meet the ventilation requirements. Incorporating ENERGY STAR goals directly into planning for Capital Asset Preservation is something that LCPS will continue to do.

★ Energy Services Company (ESCO) contract planning with ENERGY STAR requirements

In July 2014, LCPS held an interest meeting with a group of ESCOs to review the possibility of working with an ESCO. LCPS identified its highest energy use intensity schools and shared that our goal was to make these schools capable of earning an ENERGY STAR. During the interest meeting LCPS shared that it would be requiring ESCOs to use the “Designed to Earn ENERGY STAR” process and the Target Finder tool to show that the project would result in the school earning an ENERGY STAR. LCPS indicated that the goal would be to have all LCPS facilities ENERGY STAR certified over time. The ESCO process review is underway.
LCPS Administration Building - ENERGY STAR Action Plan

Dr. Williams, our new Superintendent indicated that he would like to implement energy-savings strategies associated with the Cenergistic and ENERGY STAR programs at the LCPS Administration Building. Selecting the Administration Building as an area of focus makes great sense and demonstrates the top-down commitment that Dr. Williams has advocated. An action plan to earn the ENERGY STAR was created for the building. If the goal of earning an ENERGY STAR is accomplished there will savings that are significant. The EPA ENERGY STAR Portfolio Manager Tool identifies a Site Energy Use reduction of 29,900 BTU per Square Foot and a cost savings of over $84,000 for one year. In addition to energy savings, there is an environmental impact of over 500 Metric Tons CO2e. This action plan is scheduled to begin January, 2015.

Annual Energy Report Card for all School Building Administrators

LCPS School Board policy §6-42 indicates: “The judicious use of all energy and water using systems of each campus will be the responsibility of all Loudoun County Public Schools facility users and all are expected to ensure that an efficient posture is maintained on a daily basis.” In order to empower facility administrators with the data they need to make disciplined energy management decisions, each facility administrator is provided with the following:

a. “ENERGY STAR Statement of Energy Performance.” The ENERGY STAR score shows how a school measures up against schools throughout the USA.


c. “EnergyCAP Energy Conservation Program Summary” This report provides a reflection of how well the school is doing compared to itself by contrasting the current year to a base year.

MWCOG Portfolio Manager Master account

This May the Metropolitan Washington Council of Governments (MWCOG) created its Master Account for Portfolio Manager. MWCOG is an independent, nonprofit association whose 22 Member Jurisdiction’s leaders address regional issues affecting the District of Columbia, suburban Maryland and Northern Virginia. LCPS has worked with MWCOG since 2012 to encourage the use of ENERGY STAR Portfolio Manager as the regional benchmarking tool. The creation of the Master account and MWCOG officially advocating the use of Portfolio Manager to its members marks the culmination of many year’s work, LCPS is very proud of the influence that our organization has made.

Bulletin Boards in Facilities Services Office

The Facilities Services office houses all the tradespersons who support the maintenance and operations of Loudoun County Public Schools. This year we decided to share data with Facilities staff in a very subtle and non-obtrusive way. Two versions of the bulletin board have been made to date, updates are made as appropriate.

The LCPS Energy & Environment Program is well aligned with the ENERGY STAR Guidelines for Energy Management as detailed in the program assessment matrix on the following page:
Facility & organization defined based on:
- Detailed multi-level targets with government/third party highlighting.
- All facilities report for central recognition, financial & performance.
- Specific & quantifiable at various organizational levels.
- Regular reviews & updates of performance.
- Recognition, financial & performance.
- Motivation to improve is built through internal recognition of individuals, teams, and/or a facility’s actions, interest and participation.
- All stakeholders are addressed on a standardized organizational base year.
- Broad training/certification in energy goals.
- Regular internal & external reviews.
- LCPS Energy Education Specialists revise the action plan based on results, feedback & the needs of instructional programs.

Energy Team: Active cross-functional team guiding energy program.
- LCPS Energy & Environment Team includes all students, staff, parents and other community members who make-up the totality of individuals who utilize LCPS sites. This active cross-functional team works cooperatively to ensure success.

Energy Director: Empowered central or organizational leader with senior management support.
- LCPS has a two person Co-Administrator format for its Energy Management program. With strong support from the School Board, Senior Staff and the entire LCPS Administrative Leadership Team, Energy Education Specialists lead the Team in its efforts.

- LCPS Energy & Environment Team includes all students, staff, parents and other community members who make-up the totality of individuals who utilize LCPS sites. This active cross-functional team works cooperatively to ensure success.

Social Performance and Opportunities:
- Gather and Track Data: All facilities report for central consolidation/analysis.
- Normalize: All meaningful adjustments for organizational analysis.
- Establish baselines: Standardized organizational base year and metric established.
- Benchmark: Regular internal & external comparisons & analyses.
- Analyze: Profiles identifying trends, peaks, valleys & causes.
- Set Performance Goals: The scope of the LCPS Energy & Environment Program is defined by the size of the school system. All facilities and all facility users are included in this program. The LCPS Energy & Environment Team includes all students, staff, parents and other community members who make-up the totality of individuals who utilize LCPS sites.

Determine scope:
- Short & long-term facility and corporate goals.
- The potential for improvement is simple; LCPS energy use and cost for energy can, in theory, be brought to zero.

Estimate potential for improvement:
- Facility & organization defined based on experience.
- The potential for improvement is simple; LCPS energy use and cost for energy can, in theory, be brought to zero.

Establish goals:
- Specific & quantifiable at various organizational levels.
- LCPS goals are to reduce district energy use and cost without negatively impacting health and safety, the educational environment, or productivity.
- The LCPS Energy & Environment Team includes all students, staff, parents and other community members who make-up the totality of individuals who utilize LCPS sites.

Define technical steps and targets:
- Detailed multi-level targets with timelines to close gaps.
- LCPS incremental long-term goals are as follows:
  - (STEP 1) All LCPS facilities will earn an ENERGY STAR.
  - (STEP 2) All LCPS facilities will be Net-Zero Energy based on Technical Report NREL/TP-550-44586.
  - (STEP 3) All LCPS facilities will be carbon neutral with all energy requirements being met with 100% renewable energy.

Determine roles and resources:
- Internal/functional roles & funding identified.
- The LCPS Energy & Environment Team will ensure efficient and effective stewardship of public resources through continually striving to reduce district energy use and cost without negatively impacting health and safety, the educational environment, or productivity.

Create a communication plan:
- All stakeholders are addressed on a regular basis.
- LCPS has a multi-level communications program that includes tactics for each of the following: Internal, Local, State, Regional, National, and Worldwide. The LCPS communications plan is detailed in section two of the Partner of the Year Application.

Raise awareness:
- All levels of organization support energy goals.
- LCPS Energy Education Specialists implement the action plan to raise awareness and build program support at all levels with a constant vigilance to avoid negatively impacting health and safety, the educational environment or productivity.

Build capacity:
- Broad training/certification in energy goals.
- LCPS facilities are periodically benchmarked in three ways:
  - ENERGY STAR Statement of Energy Performance. The ENERGY STAR score shows how a school measures up against schools throughout the USA.
  - EnergyCAP Energy Conservation Program Summary. This report provides a selection of how well the school is doing compared to itself by contrasting the current year to a base year.

Motivate:
- Recognition, financial & performance incentives.
- LCPS Energy Education Specialists implement the action plan to raise awareness and build program support at all levels with a constant vigilance to avoid negatively impacting health and safety, the educational environment or productivity.

Track and monitor:
- Regular reviews & updates of energy program.
- LCPS Energy Education Specialists review all aspects of the program on an annual basis (at a minimum) to determine where resources are best allocated and to ensure that the areas which need attention are areas of focus.

Statistical Progress:
- Measure results: Compare usage & costs vs. goals, programs, competitors.
- LCPS reviews the results of the program in terms of budget requirements. The LCPS Energy Education Specialists report on the percentage of buildings that meet energy efficiency goals.
- Review action plan: Action plan based on results, feedback & business factors.
- LCPS Energy Education Specialists make the action plan based on results, feedback & the needs of instructional programs.

Recognize Achievements:
- Internal recognition: Acknowledge contribution of individuals, teams, facilities.
- LCPS Energy Education Specialists recognize all aspects of the program on an annual basis (at a minimum) to determine where resources are best allocated and to ensure that the areas which need attention are areas of focus.

Get external recognition:
- Government/third party highlighting achievements.
- ENERGY STAR recognition highlighting achievements help to unite us in a strategic way that serves the common good. It other external recognitions also provide third party validation of LCPS efforts.
LCPS believes that reducing energy use requires that everyone who uses an LCPS facility be disciplined in the judicious use of resources. All LCPS facility users must understand their role in order for them to take an active part in energy conservation. We have a philosophy that every person who uses an LCPS facility should know about the Energy and Environment Program; they should know why it exists and how they can participate. If there is ever a person who isn’t knowledgeable, they represent an opportunity for us to reach out; no opportunity is neglected. Each of the groups of people below are included in the LCPS Energy & Environment program internal communications plan which includes a wide variety of activities and efforts. The goal is to create a culture where everyone who uses an LCPS facility understands how they can contribute and is actively taking part in the program as follows:

★ School Board – The School Board creates policy and it is they who define the mission and goals of the district. Having a School Board that understands and values energy conservation and efficiency is where it all starts. Ultimately it is the School Board that must be knowledgeable and supportive of energy and environmental programs for the district to be successful.

★ Senior Staff/Administrative Leadership Team – Senior Staff and their Administrative Leadership Team create the procedures needed to execute School Board Policy and drive programs so that School Board goals and must be able to demonstrate that staff is working towards fully implementing those goals. It is important to have buy-in from senior leadership that Energy & Environmental programs are warranted and that such programs can generate and maintain significant savings.

Principals – They lead the school in all activities, not only instruction, weaving energy conservation as a constantly visible thread of the tapestry of the school’s culture. Principals make announcements, organize staff members and students, provide support for instructional as well as extra-curricular programs, and keep everyone pointed in the right direction. In addition to overseeing the implementation of formal shut-down procedures over holiday periods, they participate in best practices to reduce energy consumption for weekends and overnights as well as work towards daily operation of the school in the most efficient manner possible. Not only do they have responsibility for school operations, they also work with all community users of LCPS facilities, making sure that those groups understand and incorporate energy conservation into their use of the school.

★ Teachers – Our teacher’s leadership in their classrooms, within their grade level, throughout their subject area and their more subtle leadership by example is hugely important. Teachers make it known that they don’t waste energy in their classroom. They assign a “caboose” student to turn off the lights and close the door when they leave a room. They select a “monitor-monitor” who turns off electronic equipment according to LCPS procedure. They keep their windows closed when HVAC is operating in occupied mode, and show students with both words and action that small contributions matter. All this, while at the same time prioritizing their work teaching the LCPS curriculum.

★ Students – LCPS has over 73,000 students; many hands make light work. Although the instructional curriculum is the primary and formal component of education, the creation of responsible citizens who will lead this country in the way it should go in the future is also urgent and important. Students are provided
opportunities to participate on a daily basis. Some students do more, some do less, but every action adds up over time. Some of our students lead environmental clubs or groups, some put extra time and effort into their school outside of the school day, some attend doors during arrival and dismissal so that doors are not propped open, some support the implementation of school shut down procedures for holidays, and some may simply turn something off when they are done with it. We value each contribution, no matter how small it may seem. It might not seem like much to turn off a computer or lights in a classroom, but it is. It is a collective action that takes hundreds of thousands of actions that lead to savings.

Support staff – Plumbers, HVAC technicians, Electricians, Book-Keepers, Secretaries, Reading Specialists, Teachers Aides, the list of support staff is long. Each person supports the operations of LCPS in a different way. Whether it is maintaining equipment, helping students to excel, or managing the day-to-day tasks that must be done, each one of these folks injects their version of conservation and or efficiency into everything they do. Throughout the ranks of support staff there are various in-service activities that highlight energy conservation and efficiency in which best practices are shared and discussed.

⭐ Custodians – Custodians are hugely important. They are the first people in the school and the last person out of it each day. They incorporate a long list of best practices into their work; LCPS even has a specific list of things written in the first person plural. It isn’t a pledge, but it is something that all custodians are aware of and focus on each day:

- When we arrive in the morning, we turn on only enough lights to do morning duties. We do not turn on any lights that are not needed. We do not turn on the lights in offices, classrooms, gyms, the auditorium, the cafeteria, or the library. We let the staff who use those areas turn on the lights in those areas.
- We check all outside lights each morning and turn them off if necessary.
- We turn on lights only when areas are occupied. We leave the lights off when areas are unoccupied.
- We stay alert throughout the day, as we pass unoccupied areas, we turn off the lights in those areas.
- We only turn on hall lights when faculty and students are in the building. We turn off hall lights as soon as they are no longer necessary.
- We only turn on the lights in the room we are cleaning, we turn off the lights whenever we leave an empty room.
- We do not allow doors to be propped open unless absolutely necessary. We close doors that have been propped open as soon as the open door is no longer needed.
- We close all windows that have been left open.
- We turn off all lamps, radios, computer monitors, laminators, TVs, VCRs, and other unnecessary equipment that has been left on.

Bus drivers – Bus drivers know their students. They don’t just transport, they help to teach important life lessons in their brief interactions. Actions as simple as being on time and not idling the bus as they wait for students to be dismissed makes an important environmental statement. Students are watching and absorb good practices even if they are not explicitly taught.

Kitchen staff – Kitchen personnel turn on kitchen exhaust hoods only when needed, food service line warming units are only run when serving food, water is not wasted, doors to refrigeration units are kept closed as much as possible, air separation curtains that isolate walk-in units from general kitchen areas are
used, and staff consolidates foods into the walk-in refrigeration/freezer units rather than leave service line units in operation during holidays.

Parents – Parents are very important to LCPS. They entrust the care and education of their children to the school system. Of course, parents choose to participate in supporting school programs in a wide variety of ways. We have guest speakers who bring energy and environmental issues to students directly. We have sponsors of sustainability clubs, healthy and environmentally friendly groups and community teams that work with schools and students all around the district. School newsletters and websites highlight energy conservation and efficiency and communicate this information to those parents who take a less active role.

Community members – In much the same way that parents bring their expertise and experience to schools, members of our communities contribute to schools in a number of ways. It may be the local businessperson who sponsors an event for students and their families, perhaps a Parks, Recreation and Community Services (PRCS) representative who models good energy conservation behavior during after school programs, or it may be the representative of a homeowner’s association who organizes a festival which provides the community an opportunity to learn about energy efficiency and other environmental issues, no matter who it is, LCPS schools are a cornerstone of the community they serve.

2B - External Audiences

LCPS takes many actions to promote ENERGY STAR and the culture wherein LCPS facility users take an active role in energy conservation to various audiences outside of the school system. LCPS is first and foremost an educational institution. Communicating the financial and environmental benefits which can be realized when everyone takes disciplined conservation actions is a responsibility that LCPS takes on in many venues. Examples of the items below, which occurred in the last twelve months, will be included as supplemental materials.

Local
• ★ Earth Day @ Loudoun
• Cascades and Home Owners Association Fall Festival & Green Expo
• Chapman DeMary Trail 5th Birthday Event
• Middleburg Community Charter School ENERGY STAR assistance
• ★ Loudoun Times-Mirror Article

State
• Virginia School Boards Association Green Schools Challenge Award Application
• ★ Governor’s Environmental Excellence Award - Silver Medal recipient in 2014
• 25th Environment Virginia Symposium, Virginia Military Institute
• ★ Letter from Governor McAuliffe congratulating ENERGY STAR certified schools

Regional
• Metropolitan Washington Council of Governments
  o Portfolio Manager Master Account
  o ★ First Annual Climate and Energy Leadership Award
• Loudoun Environmental Stewardship Alliance (LESA)
• ★ Association of Energy Engineers National Capitol Chapter
• Washington Post article featuring LCPS ENERGY STAR schools
National
- ★ Cherokee County, North Carolina ENERGY STAR assistance
- Delaware County, Pennsylvania ENERGY STAR assistance
- Change the World, Start with ENERGY STAR Pledge Driver
- ★ ENERGY STAR Day (10-28-2014) event at LCPS Administration Building

Worldwide
- ★ Inclusion of ENERGY STAR logo and Internet links on LCPS Internet site & social media
- ★ Inclusion of ENERGY STAR information on individual school Internet sites
- World Energy Engineering Congress - Association of Energy Engineers

2C - Participation in ENERGY STAR Recognition Activities

LCPS certifies eligible ENERGY STAR buildings on an annual basis
In 2014, LCPS certified 47 ENERGY STAR buildings. This continues the annual trend of consistent increase in the number of ENERGY STAR certified buildings since 2008, when LCPS began the certification process.

★ LCPS displays the ENERGY STAR plaque at all of its certified buildings
LCPS has continued to purchase a plaque for every ENERGY STAR rated school. In 2014, to test the internal value of the plaques, an internal survey was conducted to see if the plaque is the preferred recognition device for LCPS schools. Administrators at all LCPS schools that had earned at least one ENERGY STAR certification were polled; there was an overwhelming response that led to LCPS continued use of the plaque. 52% of those surveyed responded and 85% of respondents preferred the plaque over a banner, flag, or other recognition device.

★ LCPS achieves “Designed to Earn the ENERGY STAR” for new school designs
All LCPS new construction projects are evaluated by the Target Finder tool for new construction design. In addition to the three schools that have already earned an ENERGY STAR certification after being “Designed to Earn ENERGY STAR” LCPS has six more schools that are moving in that direction: Discovery ES, Moorefield Station ES, Trailside MS, Cardinal Ridge ES, Rock Ridge HS, and Riverside HS. LCPS participation in this process and using the Target Finder tool spreads the word to architects and engineers who serve the district and the greater community.

LCPS organized a local presentation about “Designed to Earn the ENERGY STAR”
The National Capital Chapter of the Association of Energy Engineers meeting in January of 2014 featured Karen Butler, who manages the “Designed to Earn ENERGY STAR” certification initiative to provide recognition for projects and A/E firms that meet EPA criteria for energy efficiency.

★ LCPS helped to develop an ENERGY STAR success stories
As one of the first featured Certification Nation Premiere Members, LCPS was honored to develop a success story that has been featured on the ENERGY STAR Internet site since this special anniversary recognition event was announced this year.

ENERGY STAR Awards
LCPS was honored with “Sustained Excellence - Partner of The Year” in 2014, 2013 & 2012
LCPS was honored with “Partner of the Year” in 2011 & 2010
Several organizational changes for LCPS have affected energy use in the past twelve months. First, there was the multi-level management change described in the beginning of section one. Second, there was a change in standardized heating set point across all LCPS facilities in October of 2012. The decision was made to move away from a 69°F heating set point and to implement a 71°F heating set point. Finally, during the summer of 2014 all district-wide summer school programs were cancelled by the School Board. Whereas there would have been six locations holding summer school programs under normal conditions, many more schools held extended school year, early back-to-school, or other summer enrichment programs that caused significant additional use of school facilities during the summer.

Although there have been changes which have created challenges, LCPS has achieved several noteworthy actual energy performance improvements during the past year:

Horizon ES earned an ENERGY STAR in 2012, but failed to do so in 2013. With focused attention on both mechanical systems and the energy consumption habits of the people in that school buildings, LCPS was able to recover the certified status of Horizon ES for 2014. In addition, LCPS had six first time ENERGY STAR certified schools: John Champe HS, Douglass ES, Hillsboro ES, Lincoln ES, Lucketts ES, and Waterford ES.

Continuous assessment of performance is the key to any successful energy management program. The Portfolio Manager Partner of the Year Report for the current period ending Sept 2014 compared to Sept 2013 indicates the following data:

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<thead>
<tr>
<th>Overall Summary</th>
<th>Sep 2013</th>
<th>Sep 2014</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>Number of Properties</td>
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<td>86</td>
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<tr>
<td>Property Floor Area (Building(s)) (ft²)</td>
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<tr>
<td>Total GHG Emissions (Metric Tons CO2e)</td>
<td>60464.6</td>
<td>61396.1</td>
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<tr>
<td>Number of Properties with Scores</td>
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<td>81</td>
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<tr>
<td>Average ENERGY STAR Score</td>
<td>70.9</td>
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<table>
<thead>
<tr>
<th>Energy Totals</th>
<th>Sep 2013</th>
<th>Sep 2014</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>Site Energy Use (kBtu)</td>
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<tr>
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<table>
<thead>
<tr>
<th>Energy Intensities</th>
<th>Sep 2013</th>
<th>Sep 2014</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>Site EUI (kBtu/ft²)</td>
<td>60.2</td>
<td>62.4</td>
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<tr>
<td>Weather Normalized Site EUI (kBtu/ft²)</td>
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<td>Source EUI (kBtu/ft²)</td>
<td>139.6</td>
<td>141.4</td>
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<tr>
<td>Weather Normalized Source EUI (kBtu/ft²)</td>
<td>140.3</td>
<td>139.4</td>
<td>-0.6%</td>
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</tbody>
</table>
LCPS reduced or remained constant for every weather normalized number in the data set. Continuing to keep energy use low and making small gains each year is a good demonstration of the sustained focus of our program. Furthermore, the Portfolio Manager Partner of the Year Report for the current period ending Sept 2014 compared to Sept 2007, which is the year prior to LCPS incorporation of ENERGY STAR into our program substantial reductions are apparent as shown below:

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<thead>
<tr>
<th></th>
<th>Sep 2007</th>
<th>Sep 2014</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>Weather Normalized Site Energy Use (kBtu)</td>
<td>433296970.7</td>
<td>397226090.2</td>
<td>-8.3%</td>
</tr>
<tr>
<td>Weather Normalized Source Energy Use (kBtu)</td>
<td>1022125722</td>
<td>933114716.1</td>
<td>-8.7%</td>
</tr>
<tr>
<td>Weather Normalized Site EUI (kBtu/ft²)</td>
<td>67.8</td>
<td>60.7</td>
<td>-10.5%</td>
</tr>
<tr>
<td>Weather Normalized Source EUI (kBtu/ft²)</td>
<td>160</td>
<td>142.6</td>
<td>-10.9%</td>
</tr>
</tbody>
</table>

LCPS began its program prior to the creation of Portfolio Manager; for many years EnergyCAP was the only M&V tool utilized by LCPS. Although this tool is effective and compliant to "Option C--Whole Building" of the International Performance Measurement & Verification Protocol (IPMVP), it does not allow for benchmarking of facilities outside of the school system. Portfolio Manager, used in conjunction with EnergyCAP allows for deep and meaningful analysis of energy cost, consumption and environmental impact that is continually used to enhance LCPS efforts to reduce energy use and be environmentally friendly. Below is a summary data report produced by EnergyCAP.

The cumulative dollar savings of over $60 million (equivalent to hiring over 1,270 first year teachers, or educating over 5,200 pupils for a year) is significant to the taxpayer in Loudoun County. The LCPS Energy and Environment Team motto may explain it best: “Every dollar that pays an unnecessarily high energy bill could be spent for a much better purpose – teaching children.” In addition, the cumulative emission reduction of over 280,000 metric tons of CO₂ is significant on a global scale. LCPS is proud to be an ENERGY STAR partner.

Any questions or requests for additional information should be addressed to:
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