

## 2014-2015 District Nominee Presentation Form

### CERTIFICATIONS

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#### District's Certifications

The signatures of the district superintendent on the next page certify that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the superintendent's knowledge.

1. The district has been evaluated and selected from among districts within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
2. The district is providing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review.
3. OCR has not issued a violation letter of findings to the school district concluding that the nominated school district has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
4. The U.S. Department of Justice does not have a pending suit alleging that the school district has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
5. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school district in question; or if there are such findings, the state or school district has corrected, or agreed to correct, the findings.
6. The district meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

### U.S. Department of Education Green Ribbon Schools 2014-2015 District Sustainability Award

Name of Superintendent: Dr. Jeffrey Young  
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

District Name: Cambridge Public Schools  
(As it should appear on an award)

Address: 456 Broadway, Cambridge, MA 02139

Telephone: 617-349-6494 Fax:

Web site/URL: <http://www.cpsd.us/departments/facilities/sustainability/> E-mail: [yyoung@cpsd.us](mailto:yyoung@cpsd.us)

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

I have reviewed the information in this application

(Superintendent's Signature)

Date: 1-30-2015

### **Nominating Authority's Certifications**

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The district is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
2. The district meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: Massachusetts Department of Elementary and Secondary Education

Name of Nominating Authority: Mitchell D. Chester, Ed.D., Commissioner of Elementary and Secondary Education  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.



Date: 1-30-2015

(Nominating Authority's Signature)

### **SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS**

Provide a coherent "snapshot" that describes how your district is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars and nine Elements. Then, include documentation and concrete examples for work in every Pillar and Element.

### **SUBMISSION**

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509  
Expiration Date: February 28, 2015

### **Public Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information



unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email [ICDocketMgr@ed.gov](mailto:ICDocketMgr@ed.gov) and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

## Cambridge Public Schools

Cambridge Public Schools formed a district-wide Green Schools Initiative to track and analyze energy use, engage the school community, and improve facilities. Successes and components of the program inform ongoing work and garner additional support for the district's sustainability initiatives.

Energy use, waste reduction, and recycling per facility are tracked by the district sustainability office and shared with administrators and staff via newsletters. This not only encourages behavioral changes, but prioritizes facility upgrades. The city of Cambridge adopted the five statutory clean energy criteria necessary to be designated a Green Community by state officials in 2008, granting the city funding to pursue the goal of reducing municipal energy use by at least 20 percent. That goal was reached and recognized by the Governor in December 2014, with much of the energy savings produced by schools.

The Green Schools initiative works with the district and school science departments to assess the role of STEM and climate change at every grade level. The schools offer green team clubs, giving students additional access to activities, lessons, and games to empower students to help the environment. The clubs have participated in district-wide competitions, such as Recycle Craze and the Go Green Challenge. With the assistance of a grant award, the high school will be expanding a biotechnology program to support technical and employable skills training for students interested in careers in the bio tech industry. The planned expansion includes the addition of a mammalian cell culture facility, updates computer in laboratories, and high performing liquid chromatography. Students have access to the Alewife Reservation, Fresh Pond Reservation, Cambridge Water Department, and city parks for outdoor hands-on activities. Students also have school yard gardens at each school.

Cambridge promotes healthy lifestyle activities, both through the school and the larger community, participating in the Let's Move! initiative to end childhood obesity, Tasty Choice healthy foods program, and the statewide Farm-to-School Program, among many others.

The district has engaged a wide range of municipal, state, and non-profit partners to sustain and expand its work.

| <b>Cambridge Public Schools (Cambridge, Massachusetts)</b>  |                           |                               |
|---|---------------------------|-------------------------------|
| <b><u>ED-GRS Pillars and Elements</u></b>   | <b><u>Max. Points</u></b> | <b><u>Points Received</u></b> |
| <b>Pillar I: Reduce environmental impact and costs: 30%</b>   |                           |                               |
| Element 1A: Reduced or eliminated greenhouse gas (GHG) emissions<br>Energy<br>Buildings<br>Transportation   | 10 points                 | 8                             |
| Element 1B: Improved water quality, efficiency, and conservation<br>Water<br>Grounds  | 10 points                 | 6                             |
| Element 1C: Reduced waste production<br>Waste<br>Hazardous waste  | 10 points                 | 7                             |
| <b>Total Pillar I</b>   |                           | <b>21</b>                     |
| <b>Pillar II: Improve the health and wellness of students and staff: 30%</b>  |                           |                               |
| Element 2A: Integrated school environmental health program<br>Integrated Pest Management<br>Contaminant controls and Ventilation<br>Asthma control<br>Indoor air quality<br>Moisture control<br>Chemical management | 15 points                 | 8.5                           |
| Element 2B: Nutrition and fitness<br>Fitness and outdoor time<br>Food and Nutrition<br>Other coordinated school health programming  | 15 points                 | 12                            |
| <b>Total Pillar II</b>  |                           | <b>10.25</b>                  |
| <b>Pillar III: Provide effective environmental and sustainability education, incorporating STEM, civic skills and green career pathways: 40%</b>  |                           |                               |
| Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems  | 20 points                 | 16                            |
| Element 3B: Use of the environment and sustainability to develop STEM content, knowledge, and thinking skills   | 10 points                 | 7                             |
| Element 3C: Development and application of civic knowledge and skills   | 10 points                 | 8                             |
| <b>Total Pillar III</b>   |                           | <b>31</b>                     |
| <b>Total</b>  | <b>100 points</b>         | <b>62.25</b>                  |

1. Are any of your schools or the district participating in a local, state or national school program, such as EPA Energy Star, MA-CHPS, EcoSchools, or others, which asks you to benchmark progress in some fashion in any or all of the Pillars?

Yes ( ) No Program(s) and level(s) achieved:

Our district has created our own local program called the Cambridge Green Schools Initiative (CGSI), which focuses on tracking and analyzing energy use in our public schools, and engaging building occupants in the process of saving energy, in addition to implementing facilities improvements and energy retrofits. This program is run out of our school district's Office for Sustainability. We produce a report each fiscal year detailing the successes and components of our program.

The Cambridge Public Schools founded its first Office for Sustainability in 2010. This office is run out of the Facilities Department for the school district and is led by the Sustainability Manager, and overseen by the Director of Facilities. For the past four years, the Cambridge Public Schools' Sustainability Manager has tracked and measured the energy use (kwh and therms for each school building) and corresponding costs for each school building and facility in all categories of energy use, including heating and electric. The Sustainability Manager tracks this information on a monthly basis and shares it with school administrators and staff through the Office for Sustainability, through special reports, the Office for Sustainability website, and via a monthly e-newsletter that goes out to all staff.

The Sustainability Manager records the data use information by entering it into a database off of each energy bill. Additionally, the Sustainability Manager studies the information using a software called Massachusetts Energy Insight (MEI) through Peregrine, which provides tools and resources for building energy comparisons, charts, and documents to prioritize high-use buildings for energy projects – upgrades that range from replacing oil boilers to natural gas, to retrofitting gyms, auditoriums, hallways, closets, and classroom lighting, to installing energy-efficient digital controls for our HVAC (heating ventilation and cooling) systems, among other energy-efficient improvements. In addition, we did an EPA Energy Star benchmarking study for all our schools in 2006-2007, and we are currently collecting and entering our energy use data for each school building into Energy Star software for an Energy Star benchmarking analysis that will come out in 2015, as a component of a recent Cambridge City-wide Ordinance to disclose energy use in our municipal buildings: "Building Energy Use Disclosure Ordinance." We will be required to report our energy use at each municipal building on a yearly basis moving forward, and we will be required to actively share our data with the public.

Additional resources:

- For more information on our City-wide initiative on energy disclosure please visit: <http://www.cambridgema.gov/CDD/zoninganddevelopment/sustainablebldgs/buildingenergydisclosureordinance.aspx>.
- For an example of one of our Fiscal Year Sustainability Reports, please click here: [http://www.cpsd.us/UserFiles/Servers/Server\\_3042785/File/Migration/FY12\\_Sustainability\\_Year\\_in\\_Review.pdf](http://www.cpsd.us/UserFiles/Servers/Server_3042785/File/Migration/FY12_Sustainability_Year_in_Review.pdf) [This report includes detailed information about our cost and energy savings per project (see last pages of the report for charts and data).
- To read more about our Cambridge Green Schools Initiative, and to view the entire Office for Sustainability website, please click here: [http://www.cpsd.us/departments/facilities/office\\_for\\_sustainability](http://www.cpsd.us/departments/facilities/office_for_sustainability).
- Please click here for an example of our monthly Green E-newsletter. November 2014 E-news: <file:///C:/Users/kvonhoffman/AppData/Local/Temp/fcctemp/Attach0.html>.

Schools (if applicable): All of our schools are in the process of being benchmarked for Energy Star this year as part of a larger effort to disclose the energy use of all of our municipal buildings to the public (as mentioned above), and all of our schools have excelled in energy efficiency measures through the direction of the Cambridge Green Schools Initiative, a program run out of the Cambridge Public School District's Office for Sustainability. The names of these schools and school facilities are as follows: Thorndike Administration Building, War Memorial Recreational Facility, Russell Field House, Solomon Garage, Amigos School, Baldwin School, Cambridgeport School, Cambridge Rindge and

Latin School, Martin Luther King, Jr. School, Fletcher-Maynard Academy, Graham & Parks School, Haggerty School, Kennedy-Longfellow School and Putnam Avenue Upper School (same building), King Open School and Cambridge Street Upper School (same building), Morse School, Peabody School and Rindge Avenue Upper School (same building), and Tobin School and Vassal Lane Upper School (same building).

Does your school participate in any Massachusetts environmental, health, or STEM programs/partnerships?

Yes, the Cambridge Public School District highly values partnerships and emphasizes the role of collaboration in achieving our district sustainability goals. To begin with, the Cambridge Green Schools Initiative (CGSI) is run by the school district's Office for Sustainability and has many departmental and organizational partners at the local level. The Office for Sustainability collaborates with the Department of Public Works to implement various energy projects, as well as recycling and composting in the schools. The Cambridge Energy Alliance has been a partner to the schools for various stand alone projects, including initiatives to involve Cambridge families in the effort to reduce the City's energy by getting home energy audits. Prism Energy Services is a regular partner on energy consultation and efficiency design projects, and Nstar is our utilities company with whom we execute many audits and receive rebates. We work with Casey Engineering to obtain the highest quality environmentally-friendly products for our facilities, and partner with Food Services, Cambridge Health Alliance, and Walk/Ride Days to create sustainable food options, healthy programs for our staff and students, environmentally-friendly transportation options for staff, and garden and outdoor activities for our children and families within the school community.

The Office for Sustainability partners with Massachusetts Department of Energy Resources as Cambridge is a designated Green Community, and we are proud to say that the City of Cambridge achieved a 20% reduction in municipal energy use from the city's FY08 baseline as part of our designation as a Green Community and our efforts subsequently. This is an award of the Massachusetts Department of Energy Resources.

A significant part of our Green Communities goal setting has revolved around prioritizing the schools for energy efficiency and reduction, given the large size of our footprint as a school district within the municipal building grouping. The Sustainability Manager works with other department heads on the Green Communities Committee for the City of Cambridge, to drive planning goals for achieving 20% reduction in municipal energy use.

Further, we report several times a year to the City of Cambridge's Climate Protection Action Committee on the Cambridge Green Schools Initiative and on climate change education and awareness updates. This has included reviews of our science state standards and curriculum, and check-ins with our Science Department Head within the Cambridge Public School District, to assess the role of STEM and climate change education in state standards at every grade level. Our Sustainability Manager represents the schools for the City of Cambridge's ICLEI Climate Task Force Training Committee. In this forum, our City discussed larger planning goals for ensuring the safety and transition of our City as the weather-related effects of climate change occur across Cambridge.

In addition, our schools have Green Team Clubs, a program presented by the Commonwealth of Massachusetts Department of Environmental Protection. The Green Team is an interactive education program that some of our teachers have signed their classes up for, participating in activities, lessons and games that empower their students to help the environment. Many of these activities have been complimentary to the goals and activities of the Cambridge Green Schools Initiative and its seasonal environmental competitions in the schools, including RecycleCraze and the Go Green Challenge.

RecycleCraze is a paper and cardboard recycling contest between the Cambridge schools, typically run during the second half of the school year, in which schools continue to submit the weekly recycling reporting sheets to our Department of Public Works, where we record how much every school recycles and composts.

- See website here to view recycling and composting statistics per school building for 2014-2015:  
<https://www.cambridgema.gov/theworks/ourservices/recyclingandtrash/aboutrecycling/Schools/recyclinginschools/recyclingreports.aspx>

The top two schools with the most paper and cardboard recycling per student are recognized with trophies and City-wide publicity. Honorable Mention awards were given in recognition of exemplary efforts for reducing, reusing, and recycling.

Most recently, however, we have replaced RecycleCraze with a new challenge program called the Go Green Challenge, we designed to encompass more categories of sustainability than just waste reduction. This is a partnership between the Cambridge Public Schools and the Department of Public Works. The Go Green Challenge is an opportunity for teachers to show the school community how their classroom helps the environment (recycling, using scrap paper, etc.) by completing a checklist and hanging it proudly outside their classroom to show off their efforts.

*A. Official Partners of the Cambridge Green Schools Initiative (CGSI)*

- The Department of Public Works
- The Cambridge Energy Alliance
- Prism Energy Services
- NStar
- Casey Engineering
- CPSD Food Services Department
- Cambridge Health Alliance
- Citysprouts
- Walk/Ride Days (Green Streets Initiative)

*B. City & Community Partnerships*

- Green Communities Working Group, MassDEP
- ICLEI Climate Task Force Training Committee
- City of Cambridge - Climate Protection Action Committee

2. Has your district, schools, staff or student body received any awards for facilities, health or environment?  
(X) Yes ( ) No-- Award(s), year(s) and, schools (if applicable):

I. Designated Green Community by Massachusetts Department of Energy Resources and Achieved 20% Reduction from 2008 Baseline. We are proud to say that the City of Cambridge achieved a 20% reduction in municipal energy use from the city's FY08 baseline as part of our designation as a Green Community and our efforts subsequently. This is an award of the Massachusetts Department of Energy Resources. In 2010, the City of Cambridge was designated a Green Community by the Massachusetts Department of Energy Resources, and was among the first cities and towns in the Commonwealth to earn this designation by meeting the five criteria of the program. Continual efforts to reduce energy use in our schools, has been a big part of our Green Communities goal setting. The Sustainability Manager works with other department heads on the Green Communities Committee for the City of Cambridge, to drive planning goals for achieving 20% reduction in municipal energy use. Our school district has the largest footprint in the municipal building spectrum, given all of our school buildings that are in constant use.

As we continue plan our energy projects, we are working in tandem with the overall plan for energy reduction for the City of Cambridge as a whole. The 20% reduction achievement was an honor we were awarded in early December 2014 by the Massachusetts Department of Energy Resources.

II. Cambridge Food Hero Awards. The 2014 Cambridge Food Hero Awards Honorable Mentions went to **Mellissa Honeywood**, our Cambridge Public School's Food Services Director, and **Randi Mail and Meryl Brott**, from the Recycling Department of Cambridge Department of Public Works. Randi and Meryl work with us on our single-stream

recycling and composting programs within the school district. In 2012, Josefine Wendel, MS, RD, School Nutrition Coordinator, and Dawn Olcott, MS, School Nutritionist were awarded as Cambridge Food Heroes. Both Dawn and Josefine are based at the Cambridge Public Health Department. In addition to their work in the Cambridge Public Schools, Josefine Wendel coordinates Let's Move! Cambridge and the Cambridge Community Transformation Grant. Dawn Olcott facilitates the Cambridge Food and Fitness Policy Council and advises on cafeteria lunch and food nutrition in the schools. Jane Hirschi, Founding Director of City Sprouts won a Cambridge Food Hero Award in 2012, as well. City Sprouts is a 501(c) 3 nonprofit organization providing sustainable schoolyard gardens and environmental education for the entire Cambridge Public School District.

*III. Glocal Climate Change Champions. Glocal Challenge winners were Cambridge Rindge and Latin High School students: Josh Brancazio, Isabel Gray, Aida Muratoglu, Eric Chan, Ben Austin, Clio Macrakis, Anisha Nakagawa, Zachary Spitz and Octavio Chiesa.* More than 75 students participated in the Glocal Challenge that was started by EF Education First, and judged by a panel of local educators, politicians and professionals. The Glocal Challenge asked students to identify a local environmental issue, research how other countries have found solutions to the problem, and then design a way to address the issue locally. The winning teams designed a way to minimize paper use at the high school and researched how to improve the environment through the creation of green roofs and green walls throughout Cambridge. After a month of preparations, two groups of Cambridge Rindge and Latin School students won top honors and as an award they will soon head to Costa Rica to meet Al Gore.

*IV. \$100,000 Biotechnology Grant for High School Program.* The role of biotechnology, sustainability, and climate change are becoming more intertwined as the effects of climate change place additional strain on existing biological systems. Biotechnology is as an emerging field in the realm of climate mitigation and other sustainability industries, such as with agri-biotech applications. For example, crops can be modified faster through biotechnology than conventional crops, which advances the implementation of solutions to meet severe climatic changes. The CRLS Biotechnology Program was awarded \$100,000 grant from the Massachusetts Life Science Center. The grant will be used to expand or upgrade current resources to support technical and employability skills training for students interested in careers in research and the biotech industry. There are three major areas for which the funds will be allocated. First, the grant will fund an in-house mammalian cell culture facility to for students to practice skills critical for several key areas of research and development in the life sciences. Second, the technical component of the curriculum has been hampered by outmoded computer technology which currently lags behind the rest of CRLS. As a result of be grant, all computers in the biotech lab will be updated which will make accessing and managing large scientific databases and various cutting-edge application. Third, we are looking to expand our technical capabilities to include high performance liquid chromatography (HPLC) given its prevalence in the industry for quality control, protein purification and characterization, assay development, and cell culture analysis. The grant will empower students to excel in the field of life sciences and will encourage them to pursue careers in the biotechnology industry.

*V. Cambridge Becomes a Let's Move! Community.* The Office for Sustainability works in partnership with the Department of Public Health to implement the goals of the Let's Move! Campaign in the school district, through health and environmental initiatives including drinking tap water, biking to school, and more. Cambridge officially signed on to First Lady Michelle Obama's national campaign to solve the problem of childhood obesity within a generation. First Lady Michelle Obama launched the Let's Move! Campaign to raise awareness about childhood obesity and inspire families, schools, and communities to take action to help kids be more active, eat better, and get healthy. Cambridge is one of the first cities in the U.S. to collect and analyze height, weight, and fitness data on all public school students in grades K-8. U.S. Dept. of Health and Human Services Assistant Secretary for Health Dr. Howard K. Koh, a Cambridge native and a former Massachusetts Commissioner of Public Health said, "We salute the heroes who are dedicated to reducing childhood obesity. Cambridge has excelled in promoting and launching these elements into its 'Healthy Living Cambridge Kids' program. We encourage more communities around the nation to lead by example." As a Let's Move! city, Cambridge supports efforts to promote healthier foods, increase opportunities for physical activity, make healthy foods more affordable and accessible, and help parents make healthy family choices.

*VI. Robert Wood Johnson Foundation (RWJF) Roadmaps to Health Prize.* Cambridge was one of six winners nationwide of the inaugural Robert Wood Johnson Foundation (RWJF) Roadmaps to Health Prize. The prize honors outstanding community partnerships across the United States that are helping residents to lead healthier lives. The city of Cambridge celebrated this achievement during National Public Health Week last April. Cambridge was honored for its achievements in the areas of healthy

eating and physical activity, strengthening families, progressive urban planning, and integration of public health within the Cambridge Health Alliance health care model. Continued collaborations among the Cambridge Public School District, Cambridge Public Health Department, local non-profits, and more have led to positive outcomes. “These prize winners represent leadership at its finest—trailblazers creating a culture of health,” said Dr. Risa Lavizzo-Mourey, RWJF president and CEO. “Today we honor leaders from government, business, public health, health care, and education who stand shoulder-to-shoulder working toward better health. The RWJF Roadmaps to Health Prize shines a light on their accomplishments; we hope it will inspire others to take bold steps to improve health in their communities.”

3. Has your district constructed or renovated building(s) in the past ten years? (X) Yes ( ) No

\*Note: please see our summary under “Pillar I: Reduced Environmental Impact and Costs” for detailed information about the additional energy efficiency retrofits and upgrades that we have completed at school buildings over the past several years.

(5) Number of school building renovations

Building Specifications

|  |  |
|--|--|
| <p>Building 1: <a href="#">Cambridge Rindge and Latin High School</a><br/>         Building Constructed (year): <a href="#">1931</a><br/>         Area: <a href="#">403,393 SF</a></p> <p>Renovations: <a href="#">Yes</a><br/>         Year: <a href="#">2008-2012</a></p> <p>% of building renovated: <a href="#">100%</a></p> | <p>Meets green building standard: <a href="#">LEED Certified - Gold</a><br/>         Year certified: <a href="#">2013</a><br/>         Total area certified: <a href="#">403,393 SF</a></p> <p>Green/Efficiency Features (heating, windows, insulation, etc.):<br/> <a href="#">CRLS was one of only a handful of renovation projects to achieve LEED Gold. The sustainability improvements include a chilled beam HVAC system—well-suited to incorporation in existing concrete frame buildings—and a rooftop photovoltaic array. These retrofits, coupled with high-efficiency lighting that maximizes daylight, contribute to the school’s net energy savings. Additional teaching tools are in place, like monitors in the lobby displaying real-time energy data from the solar array, and a small rooftop garden tie environmental stewardship to the curriculum and provide educational opportunities. Other visible sustainability features include low-flow fixtures that provide an annual savings of 1.3 million gallons of water, operable windows, and many bike racks use daily by students. Beneath the playground for the school’s onsite daycare center, a rainwater collection tank stores runoff from the roof and is used to irrigate the landscaping, eliminating potable water use.</a></p> <p><a href="#">Driven by the need to replace failing roofing and aging mechanical systems, CRLS now has engaging classrooms and corridors, greater internal transparency and welcoming common areas. It was built in 1931, expanded in 1977, and serves 1,700 students and regularly hosts community events. The school shares its block with two other city-owned buildings – War Memorial Recreation Center, and the Cambridge Public Library – both of which is LEED Silver certified projects and serve as resources for the local community and students at CRLS.</a></p> |
| <p>Building 2: <a href="#">Solomon Garage</a><br/>         Building Constructed (year): <a href="#">1929</a><br/>         Area: <a href="#">40,000</a></p> <p>Renovations: <a href="#">Yes</a><br/>         Year: <a href="#">2013</a></p> <p>% of building renovated: <a href="#">50%</a></p>                                   | <p>Meets green building standard: <a href="#">No</a><br/>         Year certified: <a href="#">N/A</a><br/>         Total area certified: <a href="#">N/A</a></p> <p>Green/Efficiency Features (heating, windows, insulation, etc.):<br/> <a href="#">This roof has been designed with environmentally-friendly features. It now meets the requirements of the Massachusetts Stretch Energy Code, has excellent insulation, and is a white roof, reflecting sunlight so as to create a cooling effect during hotter months. The facility is a multi-purpose building, housing the school department’s Facilities and Office for Sustainability, as well as a garage used for our high school technical students. It contains a media arts center, also used by the high school.</a></p>   |

|  |  |
|--|--|
| <p>Building 3: <b>Russell Field House</b><br/>         Building Constructed (year): <b>1995</b><br/>         Area: <b>11,225</b></p> <p>Renovations: <b>Yes</b><br/>         Year: <b>2010</b></p> <p>% of building renovated: <b>100%</b></p>                       | <p>Meets green building standard: <b>LEED Certified</b><br/>         Year certified: <b>2010</b><br/>         Total area certified: <b>11,225</b></p> <p>Green/Efficiency Features (heating, windows, insulation, etc.): <b>Russell Field House is LEED certified. Environmental materials and systems include recycled materials, high levels of insulation, a high efficiency heating system, and materials with low embedded energy costs. This building is also green because it has incorporated energy efficient design, water use reduction, sustainable site selection and development, responsible materials selection and waste management, and enhanced indoor environmental quality.</b></p>   |
| <p>Building 3: <b>War Memorial Recreation Facility</b><br/>         Building Constructed (year): <b>1950</b><br/>         Area: <b>155,449 SF</b></p> <p>Renovations: <b>Yes</b><br/>         Year: <b>2007-2010</b></p> <p>% of building renovated: <b>100%</b></p> | <p>Meets green building standard: <b>LEED Certified - Silver</b><br/>         Year certified: <b>2010</b><br/>         Total area certified: <b>78,000 SF</b></p> <p>Green/Efficiency Features (heating, windows, insulation, etc.): <b>The Cambridge War Memorial Recreation Center achieved LEED-Silver certification by the U.S. Green Building Council (USGBC). It verified by the Green Building Certification Institute for energy use, lighting, water and material use as well as incorporating a variety of other sustainable strategies. The building is 78,000 square feet and is home to three pools, a gymnasium with basketball and volleyball courts, a state-of-the-art fitness room, a multipurpose room and separate locker room facilities for school and public use.</b></p> <p>Unique green features include daylighting, vibrant tile work, and wave-patterned terrazzo flooring that adds visual appeal, durability, and sustainability to the facility. In addition, environmental design and construction includes: water-saving shower heads, toilets and urinals that results in 41.5% of water savings; 18.5% energy savings achieved through day light dimming, efficient boilers and variable frequency drive motors; reduction of urban heat island effect and energy costs with use of white roof; and diversion of more than 88% of construction waste from landfills to be recycled or reused.</p>               |
| <p>Building 3: <b>King School</b><br/>         Building Constructed (year): <b>Under Construction</b><br/>         Area: <b>169,000 SF</b></p> <p>Renovations: <b>Yes</b><br/>         Year: <b>2012-2015</b></p> <p>% of building renovated: <b>100%</b></p>        | <p>Meets green building standard: <b>LEED Certified - Platinum</b><br/>         Year certified: <b>(2015-2016)</b><br/>         Total area certified: <b>169,000</b></p> <p>Green/Efficiency Features (heating, windows, insulation, etc.): <b>The Martin Luther King Jr. School has been designed to achieve LEED Platinum certification, and includes a series of 65 geothermal wells, an automatic lighting dimmer system and gray water storage. The 169,000-square-foot school targets Net Zero energy consumption, and will serve an estimated 740 students. The school will include a CitySprouts garden, outdoor hard and softscape areas, a preschool playground, teacher's patio and a courtyard garden featuring an indoor/outdoor performance space. plethora of sustainable features, materials and systems that have put the school on target to achieve Net Zero energy.</b></p> <p>The building is projected to have an Energy Use Intensity 60 percent less than typical educational buildings in New England and will save energy through proper orientation, pervasive natural light in almost every space and high-performance roof and wall assemblies. The school will also offset energy demands through the use of photovoltaic panels mounted on the roof and south-facing facades. It will also feature full-scale composting and recycling program, like other schools within the Cambridge Public School District.</p> |

## **Pillar I: Reduced Environmental Impact and Costs**

Our district is reducing the environmental impact and costs associated with energy use in many ways. The Office for Sustainability was created in FY2010 with a Sustainability Manager, to direct the implementation of sustainable building practices, green cleaning technologies, waste reduction strategies, energy reduction, behavioral changes, and overall reduced impact on the environment. The Cambridge Green Schools Initiative (CGSI) engages school building occupants, including students, teachers, families, staff, administrators, custodians, and visitors, in behavioral changes that support daily sustainable practices in all classroom and office spaces.

The initiative is based upon the PFEWG™ model for sustainability created by the Sustainability Manager that encompasses all operations in the categories of Products, Food, Energy, Waste and Greenspace. The Cambridge Public School District's Sustainability Plan outlines five main goals that utilize the PFEWG™ model for sustainability in planning and implementation.

Often there is overlap among the five categories, which demonstrates the nature of interconnectedness in sustainable systems. For example: the process of retrofitting lighting for an energy-efficiency project in a building falls under the category of "Energy" in the PFEWG™ model for sustainability. But lights are also "Products," so a planner takes into consideration how to purchase lights that are environmentally-friendly in their inherent design and material brand. In summary, the PFEWG™ model for sustainability has enabled us to design the Cambridge Public School District's Sustainability Plan with goals, strategies, and action items that cover all the bases for environmentally-friendly options, providing a long-term roadmap for positive change.

The Office for Sustainability also works in partnership with the City of Cambridge Department of Public Works to implement district-wide energy saving projects. Since FY 2009, the City has invested more than \$1 million in lighting retrofit projects, boiler replacements, HVAC upgrades, and digital energy management systems, known as Direct Digital Control (DDC), which have reduced the amount of electricity, natural gas and fuel oil that school buildings consume. City funds of \$315K and grant and rebate/incentives of \$760K supported these projects. The City estimates an annual savings of approximately \$200K as a result of these projects. Energy efficiency retrofits and upgrades that we have completed at numerous school buildings over the past decade have provided our district with significant savings and reduction. The Sustainability Manager has worked in partnership with the Department of Public Works, the DOER Green Communities Grant Program, NSTAR Electric, the Facilities Department, and Prism Energy to implement efficiency projects across the school district that reduce usage and save money.

### Energy-Savings Projects

These projects have been successfully completed over the past four years, and continue to be implemented by the Sustainability Manager. The projects are organized and prioritized based on analysis of overall district energy usage that is tracked by both the Sustainability Manager and the Department of Public Works.

The focus has been on implementing energy efficiency activities by means of Lighting and HVAC Measures. Lighting upgrades have consisted primarily of the installation of high efficiency lamps, ballasts and occupancy sensors by means of retrofitting existing lighting fixtures. HVAC projects have related to the installation and upgrade of heating and cooling mechanisms and DDC (direct digital control) systems that allow for more control over systems being turned on/off, and temperature control, thus enabling greater energy savings.

Over the past four years we have implemented the following notable energy efficiency projects:

Installed a high-efficiency condensing boiler replacing inefficient and failing equipment, and was conversion from oil to natural gas. Installed a DDC (direct digital control system) that allows for a centralized and more efficient means of digitally controlling HVAC systems for a tighter control over temperature and timing of energy systems. This in turn saves energy by reducing inefficiency. Installed high-efficiency lighting and occupancy sensors The new lights use 20%-50% less electricity than the old ones, and occupancy sensors, installed where appropriate, add to the savings by turning off lights when rooms are vacant. Rooms are brighter too, due both to the color of the new lamps and because output from old bulbs decreases over the years.

Installed Variable Frequency Drives (VFDs) an aspect of the digital controls system that allows for a centralized and more efficient means of digitally controlling HVAC systems for a tighter control over temperature and timing of energy systems. Completed the programming of daily energy tracking and savings which can be viewed by students and staff online, and used as an educational resource. Launched efficiency studies building operations, and by what mechanisms, and how the system mechanics can be improved.

**Projects Underway and Future Projects:** We are working with Prism Energy to develop a template for all future lighting upgrades at schools. The building of the new King School, with an aim for being our first net zero school, is currently underway, with a highly energy efficient and sustainable design plan already in motion.

As we plan our energy projects, we are working in tandem with the overall plan for energy reduction for the City of Cambridge as a whole. Specifically, our school district has the largest footprint in the municipal building spectrum, given all of our school buildings that are in constant use. Therefore, continual efforts to reduce energy use in our schools, has been a big part of our Green Communities goal setting. The Sustainability Manager works with other department heads on the Green Communities Committee for the City of Cambridge, to drive planning goals for achieving 20% reduction in municipal energy use. This is a program of the Massachusetts Department of Energy Resources. We are proud to say that our team achieved a 20% reduction in municipal energy use from the city's FY08 baseline, an honor for which we were awarded in early December 2014.

### Waste Reduction & Recycling

The Cambridge Public School District is committed to reducing the volume of waste generated, reusing and upcycling products that do not need to be thrown away, and recycling waste daily in all classrooms and offices across the district. We are expanding composting to all schools and in four years have grown from one school that composted to nine full-scale commercial composting schools. We track the amount of waste that is both recycled and composted at our schools, and we have a comprehensive tracking program in place where we measure these amounts and publish them to our community every month.

Single stream recycling in partnership with our Department of Public Works is underway at all schools and administrative buildings. We track the total tonnage recycled at each school per month, in partnership with custodians and DPW.

We use sustainable waste disposal during construction projects, including re-purposing of materials. CGSI promotes the Product Stewardship Institute's school-based programs, such as "opt-out of catalogs and phonebook program," and other waste reduction and reuse/up-cycle classroom projects. All of our schools currently have single-stream recycling in place making the process very simple and straightforward because people can recycle all of these items by placing them in the same container.

We have a bioware pilot underway, in which we have ordered and introduced compostable trays and foodware into the cafeteria for lunchtime use. Many departments are working together to phase out polystyrene entirely and use only compostable food products like biodegradable trays and plates.

We are proud to say that nine school buildings are now composting full-scale, disposing responsibly of all their cafeteria food waste. They are: King Open School & Cambridge Street Upper School, Graham & Parks, Peabody School & Rindge Avenue Upper School, Cambridgeport, Tobin School & Vassal Lane Upper School, Haggerty, Amigos, Kennedy-Longfellow School & Putnam Avenue Upper School, and CRLS.

Here are statistics, showing how much Cambridge Public School District food waste has been kept out of the trash as of October 2014, by school building:

- Peabody School & Rindge Avenue Upper School: 58.65 tons
- Cambridge Rindge & Latin High School: 40.21 tons
- King Open School & Cambridge Street Upper School: 33.720 tons
- Graham & Parks School: 22.51 tons
- Tobin School & Vassal Lane Upper School: 15.3 tons
- Cambridgeport School: 10.39 tons
- Amigos School: 4.41 tons
- Haggerty School: 3.14 tons
- Kennedy-Longfellow School & Putnam Avenue Upper School: 250 pounds (began in 2014)

Greenspace and Transportation

The Cambridge Public School Department is committed to protecting, expanding, and providing healthy outdoor environments for all school building occupants. Fostering a respect for the outdoors and providing opportunities for outdoor environmental education, play, and learning about wildlife is central to this mission, as well, because support for sustainability in general arises from feeling connected to nature, and wanting to do something to protect and increase our natural spaces.

We also aim to foster reverence for the outdoors by educating students and staff through our monthly sustainability e-news and via our website, providing resources related to environmental preservation of greenspace and outdoors education. We encourage classes to take trips to our local natural resources, including Alewife Reservation, Fresh Pond Reservation and the Water Department, and other local parks and outdoor spaces. These habitats offer classes, kids’ walks, lessons, and other resources to our families and schools, and we use the monthly sustainability e-news as a communication tool for getting the word out to our community.

We partner with the 501(c) 3 non profit CitySprouts, which provides a schoolyard garden for each of our schools, and allows for students and teachers to grow plants and engage in hands-on learning, environmental stewardship, and the physical & sensory experience of growing and eating food. This outdoor learning experience is a core element of our students’ public school education.

Encouraging sustainable modes of transportation is an important goal within our sustainability. We continue to improve our transportation options for staff and students. In partnership with organizations such as Green Streets Initiative, Safe Routes to School, and the Cambridge Public Health Department, we educate students and staff on how to use sustainable modes of transportation to commute: such as walking, biking, carpooling, or using public transportation. This helps to encourage people to spend time outdoors when traveling between locations, in addition to reducing energy use.

Furthermore, our Office for Sustainability has partnered with the Cambridge Community Development Department to offer staff and students numerous transportation and biking workshops, as well as an innovative program called City Smart, which provides residents with a plethora of sustainable transportation resources, including downloadable maps, guides, tips, schedules and more. Cambridge Public Schools also take full advantage of the growing Hubway system, which has bikes stationed and available at numerous school sites.

1. What number of the district’s schools use energy obtained from:

|  |   |
|--|---|
| <p>School 1: <b>Cambridge Rindge and Latin High School</b><br/> On-site renewable energy generation: <b>Yes</b><br/> Type: <b>Photovoltaic</b></p> <p>Purchased renewable energy: <b>N/A</b><br/> Type: <b>N/A</b></p> | <p>Participation in federal or state school energy program:<br/> <b>N/A</b></p> <p>Use of an energy portfolio to track energy consumption and reduction: <b>We have a database that shows how much electricity our solar panels are offsetting by generating clean energy and putting it back onto the grid. This is available to our students and staff to utilize, as well.</b></p> |
| <p>School 2: <b>King School (under construction)</b><br/> On-site renewable energy generation: <b>Yes</b><br/> Type: <b>Photovoltaic</b></p> <p>Purchased renewable energy: <b>N/A</b><br/> Type: <b>N/A</b></p>       | <p>Participation in federal or state school energy program:<br/> <b>N/A</b></p> <p>Use of an energy portfolio to track energy consumption and reduction: <b>The new King School will be our most environmentally-friendly school to date, and we are striving to design one of the first net zero schools in the region, and the first in our City, opening in 2015.</b></p>          |

## **Pillar 2: Improve the health and wellness of students and staff**

Provide a summary describing how your district is improving the health and wellness of students and staff.

The Cambridge Public School District is committed to improving the health and wellness of students and staff and recognizes the interconnection between health and the environment. Throughout the process of renovating and upgrading our school building systems, we strive to keep in mind how to put design, operations, and practice into place across the school district that allows for high levels of function with minimal impact on the environment.

Currently, the Facilities Department has inventoried, recycled, and replaced outdated custodial cleaning equipment with new equipment that utilizes environmentally-friendly products, methods, and supplies. All pest-management plans continue to be updated, we are using non-VOC paint when possible, and environmentally-friendly ice melt is used. In partnership with the Cambridge Health Department, our schools are working to increase student and staff daily use of re-usable water bottles, bubblers, and tap water in place of disposable options. Through our water initiative we have inventoried all school bubblers across the district, worked with Facilities to make sure they are clean and working correctly, and printed stickers that say “Wicked Good” and “Quality Tested by the Cambridge Water Department” as promotional visuals to help people feel confident about drinking tap and bubbler water.

Cambridge is a part of First Lady Michelle Obama’s “[Let’s Move!](#)” national campaign to end childhood obesity. Locally, this campaign is being directed out of the [Cambridge Public Health Department](#) and in partnership with the Cambridge Green Schools Initiative, and helps to raise awareness about childhood obesity and to inspire families, schools and communities to take action to help kids be more active, eat better and get healthy.

The Tasty Choices Program is an essential part of the ongoing work to help students stay healthy and in school so that they can reach their academic potential. Through this program, school nutrition staff collaborates with the schools’ Food Services Department to increase the number of healthy and appealing food choices available to students. Nutrition staff works to create a school environment that promotes healthy choices throughout the school day, as well as provide education and outreach to students, staff and families. As part of the Tasty Choices Program, the [Farm to School Program](#), started by the Growing Healthy Collaborative, is bringing locally-grown, sustainable food into the school cafeterias, including nectarines, cider, apples, peaches, tomatoes, butternut squash, carrots, and pickles.

## **Pillar 3: Effective Environmental and Sustainability Education**

Provide a summary describing how your district ensures effective environmental and sustainability education including:

The Cambridge Public School District ensures effective environmental and sustainability education through curriculum in all grades, special projects initiated by teachers, student-run clubs, and resources and workshops provided by the sustainability manager and Office for Sustainability. Once each month, the Cambridge Green Schools Initiative e-newsletter provides educational and curriculum links and supplements for staff, and our comprehensive sustainability website offers extensive resources for classroom teachers.

The Cambridge Public School District makes it a priority to focus on sustainability because we believe we have an environmental responsibility to reduce our impact on the planet, and an educational responsibility to raise awareness among students and our community at large. We believe that the network of influence a single school empowers can have a ripple effect, and that by education students and staff they will take that knowledge home to their families and into their social circles. By implementing sustainability in our schools, we can make a lasting and positive impact in the world.

Specific to education, the Office for Sustainability describes the course of sustainability playing out in three ways: first, through the operational design, or way in which we approach the function of our school buildings; secondly, through the practice and daily choices made by building occupants; and thirdly, through the integration of sustainability education into aspects of classroom curriculum and programming.

Engaging students to be leaders of sustainability helps to mobilize an entire school community in the effort of reaching energy and sustainable practice goals, and ultimately aids in the process of cutting costs and saving money for a school district.

Implementing sustainability in schools is a team effort. Teachers play a huge role in the process of a child's growth and their understanding of the world around them, and so play a critical role in the success of sustainability implementation and student engagement, as do all building occupants and staff, including a school's custodial staff who work hard to maintain sustainable operations. Often, sustainability plans involve partners within the municipality, such as the department of public works or community groups.

Sustainability and environmental educational opportunities are e-mailed to staff on a regular basis, along with accompanying resources on our website. The Sustainability Manager gives presentations and workshops to all-staff meetings, individual classes, including lessons related to sustainability, environment, and climate change. A Green Hero Award is given every two months to an individual or group making a significant contribution or impact towards environmental sustainability in the school district.

In the Cambridge Public School District's current science curriculum addresses sustainability and climate change. The Science Department is rolling out new curriculum over the next few years K-12, that will expand upon the issues of sustainability. For example in seventh grade, students explore it in Matter and Energy in Living and Earth Systems. In this unit they learn about the correlation between CO<sub>2</sub> concentration in the atmosphere and average global temperatures. In 8th grade they see how the Greenhouse effect is the cause of the correlation through the Forces in Earth System Unit. Throughout units, students learn about evidence to construct an argument about the best energy source for electricity. They will consider a biofuel (to be determined which one), fossil fuel (coal, oil, or gas) wind, hydro and solar (nuclear is possibly an option.) Students will consider the implications for the carbon cycle on each, and trace where the energy for each source comes from.