District Planning, Operations and Maintenance

Hawaii schools are uniquely governed by a single school district. In an effort to streamline the HI-CHPS Criteria, high performance measures intended for the school district where separated into this category addressing district planning and district influences on school operations. The category is intended to encourage further support at the district level for implementation of high performance features at the school level and district wide. Private and charter schools may still gain points in this category if they are equivalently implemented at a school board or governing body level.

District Planning Operations and Maintenance

OM.P1: District High Performance Operations — Prerequisite

Applicability	Verification Required		
All projects.	○ at Design Review	○ at Construction Review	⊗ at Performance Review

Intent: Assess that the school project meets its design intent in providing an efficient, healthy and environmental responsive place to learn and work.

The CHPS Operations Report Card (ORC) is an online interactive tool that benchmarks the current performance of existing schools, provides a report card of results and makes suggestions for improvement. The assessment takes place in five categories: energy efficiency, thermal comfort, visual comfort, indoor air quality, and acoustics. The ORC provides schools with a simple, understandable score to communicate where their school currently stands on the spectrum of high-performance.

Requirement

Prerequisite	OM.P1.1 Within 18 months of occupancy the owner must benchmark the projects performance under the CHPS Operations Report Card (ORC).

Implementation

Complete several steps through the ORC program, including data-gathering through facilities measurements and occupant surveys. After entering all of the requested information, the school is provided with its Report Card. This summary document provides the school with the numeric score it has achieved in each category, along with brief comments about why that is the case. In addition to the Report Card, each school receives a customized list of suggested improvements based on their site information. While a particular score is not required under the prerequisite, points are offered for a passing score under OM.C2.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at performance review only.

Performance Review Requirements	
OM.P1	Complete the ORC program by receiving a score for the school. Notify CHPS that you have received your ORC benchmark and are ready for recognition. This is the last step in verification.

Resources

CHPS Operations Report Card: http://www.chps.net/dev/Drupal/node/44

District Planning Operations and Maintenance

OM.P2: Systems Maintenance Plan — Prerequisite

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Provide useful tools to ensure that the school continues to perform as designed, to protect student and staff health during occupancy.

Create a maintenance plan that includes all mechanical, electrical, and plumbing systems, to minimize consumption and operational costs.

Requirement

Prerequisite

OM.P2.1 The DOE (or school governing body for private and charter schools) must create a school maintenance plan that includes an inventory of all equipment in the new or renovated school. The plan must address the preventive and routine maintenance needed and include staff time and materials costs (as available) for each maintenance task. The plan should clearly define who is responsible for performing the task, as well as the overall management of maintenance activities. The inventory and plan should cover the following systems:

Electrical Systems:

- Lighting fixtures and controls (daylight, occupancy, timing switches, etc.)
- On-site renewable solar electric or wind systems
- Cable access television
- Telecommunication systems
- Electrical distribution systems
- Life and safety systems

HVAC Systems:

- HVAC systems (such as hot water systems, chilled water systems, central air systems, ventilation systems)
- Domestic hot water systems
- Energy Management system
- Renewable energy heating systems (if applicable)

Plumbing Systems:

- Flow control devices
- Pumping systems
- Special hazardous waste treatment systems (e.g. for lab wastes)
- Domestic hot water systems
- Graywater systems (if applicable)

Building Envelope and Roofing Systems (particularly acid management)

Significant Plug Loads

Implementation

Like conventional schools, all high performance schools and their systems require preventive and routine maintenance. This prerequisite encourages districts to plan for preventive and routine maintenance tasks and invest adequate funds in the maintenance of their school facilities.

The maintenance plan should include all regularly scheduled preventative and routine maintenance tasks and their frequency over the lifetime of the building system or equipment. These tasks include cleanings, calibrations, component replacements, and general inspections. Operations and maintenance manuals and commissioning reports developed during the commissioning process should be used as references for developing the maintenance plan. The plan must include staff time and projected materials costs if readily available for each maintenance task and clearly define who is responsible for performing the task, its frequency, as well as the overall management of maintenance activities.

Cross-Category and Other Considerations

The Systems Maintenance Plan is one of the most important features of a high performance school since it establishes the practices that will continue to ensure the school is operated according to its high-performance intent. The Systems Maintenance Plan is a key part of Commissioning, see Energy Prerequisite EE.P2, and Training, see Energy Prerequisite EE.P3, and has a strong connection to other energy efficiency performance items such as Energy Benchmarking OM.C6. It also relates directly to other requirements and credits in this section.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at construction review only.

Construction Review Requirements	
OM.P2	Provide the Systems Maintenance Plan.

Resources

CHPS Best Practices Manual Volume IV – Maintenance & Operations: www.chps.net

District Planning, Operations and Maintenance

OM.C1: District High Performance Planning — 1 Point

Applicability	Verification Required		
All projects. This credit only applies to private and charter schools (non-public school) projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Integrate planning and programs at the district level that support all schools in Hawaii achieving a high performance designation.

Hawaii public schools are uniquely governed by a single school district. It is the intent of the school district and DOE to use this Criteria as the bases for the design and construction of its schools. Therefore, this credit is only offered for private and charter schools.

Schoolleaders who institutionalize high performance programs are not just building better schools; they are protecting student and staff health, improving student performance, and lowering the district's operating expenses. Institutionalizing high performance schools allows districts to leverage suppliers and vendors for products and services that comply with high performance school standards; standardize specifications and building strategies to minimize time and expenses; and maximize the benefits of high performance schools on a district-wide basis.

Requirement

1 point	OM.C1.1 The school governing board for private and charter schools must maintain membership with the CHPS Registered program and must pass a board or trustee-level resolution that mandates compliance with CHPS and CHPS best practices for the corresponding project type as follows. Meet or exceed the CHPS qualifying threshold using the CHPS Criteria for: • New Construction • Major Modernization Projects • New Buildings on an Existing Campus • Additions to an Existing Building • Prefab/Relocatable/Modular Classrooms to accommodate growth on the CHPS school site and existing sites Incorporate CHPS prerequisites and other appropriate CHPS best practices for: • Minor Modernization Projects

Implementation

The school must be a member of CHPS Registered and maintain membership by submitting an Annual Report to CHPS. Upon passing a high performance resolution, the board or trustee level resolution must be submitted and approved by CHPS. CHPS Registered districts receive member benefits from CHPS for free and agree to annual reporting requirements on how they are meeting their commitment. Please see the CHPS website for participation in the CHPS Registered program, for sample board or trustee level resolutions and other resources.

Cross Category & Other Considerations

See related credit OM.C1 District High Performance Operations, intended to influence district decision on the operations of the school project.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at construction review only.

Construction Review Requirements	
OM.C1	Provide the resolution only if not already on file with CHPS. Resolutions on file with CHPS are listed on its website www.chps.net

Resources

View current school district resolutions and the CHPS sample resolutions at:
http://www.betterbuildingsbetterstudents.org/dev/Drupal/node/356

CHPS Best Practices Manual, Planning Volume : Adopting and Implementing a CHPS District Resolution and Appendix B - Implementation Roadmap and Monitoring Plan

CHPS Registered District Program: http://www.betterbuildingsbetterstudents.org/dev/Drupal/node/17

CHPS Operations Report Card: http://www.chps.net/dev/Drupal/node/44

District Planning, Operations and Maintenance

OM.C2: Enhanced High Performance Operations — 7 Points

Applicability	Verification Required		
All projects.	◯ at Design Review	⊗ at Construction Review	⊗ at Performance Review

Intent: Ensure that the school project meets its design intent in providing an efficient, healthy and environmental responsive place to learn and work.

This credit builds on the prerequisite OM.P1 for benchmarking the school performance using the CHPS Operations Report Card (ORC).

Requirement

5 points	OM.C2.1 Within 18 months of occupancy the school must benchmark its performance under the CHPS Operations Report Card (ORC) and receive a passing score of 70 points.
1 point	OM.C2.2 The school district (or private or charter school) must designate a permanent energy and water manager(s) to set performance targets, monitor usage and coordinate and support school level advocates. OM.C2.3 Designate a school based advocate to provide education and awareness on energy and water reduction programs and targets to promote behavioral change.
1 point	OM.C2.4 Commit to perform recommissioning after 2-5 years of building occupancy.

Implementation

OM.C2.1

See prerequisite OM.P1.

OM.C2.4

Provide a letter or policy (at the Superintendent level or board level for private and charter schools) with the commitment to recommission the project within the required timeframe.

Committing to recommission the school years after it is completed to HI-CHPS standards helps to ensure the high performance features of the school continue to provide benefits over the life of the school. Recommissioning (also sometimes called retro-commissioning) involves having a commissioning agent re-check the systems after a couple years of operation. Recommissioning can be done by the original commissioning agent or by a different one but should be performed by someone meeting the same qualifications described in EE.P2. The scope of recommissioning should follow the original commissioning scope for testing and balancing and any other aspects that might be appropriate.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at construction review and performance review.

Construction Review Requirements	
OM.C2.2 and OM.C2.3	Provide confirmation from the school district (or private or charter school) that a designated, permanent energy and water manager(s) has been hired and a school based advocate has been hired or volunteered. Provide their contact information.
OM.C2.4	Provide the school district (or private or charter school) commitment to have the school recommissioned after 2-5 years of occupancy.
Performance Review Requirements	
OM.C2.1	Complete the ORC program by receiving a passing score for the school. Notify CHPS that you have received your ORC benchmark and are ready for recognition. This is the last step in verification.

Resources

CHPS Operations Report Card: http://www.chps.net/dev/Drupal/node/44

District Planning, Operations and Maintenance

OM.C3: Anti-Idling Measures — 1 Point

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Prevent idling that pollutes the air, wastes fuel, and causes excess engine wear.

According to the U.S. Environmental Protection Agency (U.S. EPA), exposure to diesel exhaust, even at low levels, is a serious health hazard and can cause respiratory problems such as asthma and bronchitis. Diesel emissions are well-documented asthma triggers and may increase the severity of asthma attacks.

Requirement

1 point	OM.C3.1 Adopt a no idling policy that applies to all school buses operating in the school district and all vehicles operating in the school zone. The policy must include the following provisions: • School bus drivers will shut off bus engines upon reaching destination, and buses will not idle for more than five minutes while waiting for passengers. This rule applies to all bus use including daily route travel, field trips, and transportation to and from athletic events. School buses should not be restarted until they are ready to depart and there is a clear path to exit the pick-up area. • Post signage expressly prohibiting the idling of all vehicles for more than five minutes in the school zone. • Transportation operations staff will evaluate and shorten bus routes whenever possible, particularly for older buses with the least effective emissions control. • All school district bus drivers will complete a "no idling" training session at least once. All bus drivers will receive a copy of the school district's No Idling Policy at the beginning of every school year.

Implementation

The term "school grounds" shall mean in, on or within 100 feet of the school, including any athletic field or facility and any playground used for school purposes or functions which are owned by a municipality or school district, regardless of proximity to a school building, as well as any parking lot appurtenant to such school, athletic field, facility or playground.

Establish the length of time an operator on school grounds may idle an engine before such idling becomes prolonged, and the limited circumstances under which the prolonged idling of an engine shall be permitted, including periods necessary to operate defrosting, heating or cooling equipment to ensure the health or safety of a driver or passengers or to operate auxiliary equipment and to undergo inspection or during maintenance.

Prohibit an operator of a school bus from idling a school bus engine while waiting for children to board or exit a bus on school grounds and from starting a school bus engine for any unnecessary period of time in advance of

leaving the school grounds, unless the registrar determines that a school bus engine must be fully engaged in order to operate safety devices or that such idling prohibition would otherwise compromise the safety of children boarding or exiting a bus. Such regulations shall further prescribe templates for "no idling" signage to be posted by schools.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at only construction review.

Construction Review Requirements	
OM.C3	Provide a copy of the adopted anti-idling policy.
OM.C3	Provide picture(s) of the installed anti-idling signage.

Resources

None.

District Planning, Operations and Maintenance

OM.C4: Green Cleaning — 2 Points

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	⊗ at Performance Review

Intent: Protect student and staff health, and the environment from exposure to hazardous cleaning products.

While this credit applies to all schools, the prevalence of naturally ventilated schools in Hawaii can create excessive dust and dirt build up indoors. The use of green cleaning products and practices supports the goal of maintaining a healthy, safe, and clean environment for students, faculty, and staff.

Requirement

1 point	OM.C4.1 At the school district level (or board / governing level for private and charter schools), establish a resolution or policy including the following green cleaning and maintenance requirements: • Only environmentally preferable cleaning products that are non-toxic as verified by Green Seal or Environmental Choice shall be purchased. • No products shall contain chemicals prohibited by the Living Building Challenge Standard's Red List. • Prohibition of aerosol and plug-in air fresheners. • Periodically audit the project for cleanliness according to APPA Guidelines.
1 point	OM.C4.2 Create a space inventory and conduct an audit between 12-18 months from occupancy (coordinated with the timing of ORC benchmarking under OM.P1) to measure cleaning program effectiveness according to APPA Leadership in Educational Facilities Custodial Staffing Guidelines and achieve Cleaning Level 2. Remediate as required to achieve Cleaning Level 2.

Implementation

Adopt a policy and provide implementation procedures for the three measures listed in the requirement.

Green cleaners are those that are:

- Evaluated and certified by Green Seal
- Non-irritating
- Environmentally friendly
- No strong fumes or perfumes
- Safe to dispose

The Living Building Challenge's Red List includes:

Asbestos
Cadmium
Chlorinated Polyethylene and Chlorosulfonated Polyethlene43
Chlorofluorocarbons (CFCs)
Chloroprene (Neoprene)
Formaldehyde (added)
Halogenated Flame Retardants44
Hydrochlorofluorocarbons (HCFCs)
Lead (added)
Mercury
Petrochemical Fertilizers and Pesticides45
Phthalates
Polyvinyl Chloride (PVC)
Wood treatments containing Creosote, Arsenic or Pentachlorophenol

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at construction review and performance review.

Construction Review Requirements	
OM.C4.1	Submit the green cleaning policy or resolution covering the required areas.
Performance Review Requirements	
OM.C4.2	Submit the space inventory and completed audit.

Resources

Green Seal: www.greenseal.org

Living Building Challenge Red List: https://ilbi.org/lbc/standard

APPA: http://www.appa.org/tools/measures/index.cfmEnvironmental Choice: http://www.environmentalchoice.com/en/seeourcriteria/details.asp?ccd_id=371

District Planning, Operations and Maintenance

OM.C5: Work Order and Maintenance Management System — 1 Point

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Maintenance management systems can be used to optimize staff resources, detect impending problems, optimize equipment performance and control equipment inventory.

Requirement

1 point	OM.C5.1 The school or district shall develop or purchase and use a work order and maintenance management system (MMS) in the new or renovated school. The system shall include all equipment in the school and the preventative maintenance needs for the equipment (per the Systems Maintenance Plan OM.P2).

Implementation

A Best Management Practice for preventive maintenance is a maintenance management system (MMS). Options exist for developing an MMS or implementing a computerized MMS with stand-alone software or web-based services. MMS systems may be integrated with other software programs used to maintain the school, such as the Energy Management System.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at only construction review.

Construction Review Requirements	
OM.C5	Provide proof of purchase of the MMS and an example showing equipment entered with its preventative maintenance needs in accordance with OM.P2.

Resources

None.

District Planning, Operations and Maintenance

OM.C6: Indoor Environmental Management Plan 2 Points

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Promote ongoing efforts to prevent, monitor and correct indoor air quality problems.

According to the U.S. EPA, the indoor environment may contain levels of air pollutants that are 2-5 times higher, and occasionally 100 times higher, than outdoor levels. Poor indoor air quality (IAQ) can cause headaches, fatigue, asthma attacks, and ultimately absenteeism. Asthma can be a leading cause of school absenteeism due to chronic illness (U.S. EPA).

Requirement

2 points	OM.C6.1 Promote a healthy indoor environment in a new school or renovation by utilizing the U.S. EPA's Tools for Schools Healthy Seat Program or an equivalent indoor health & safety program at the school district level.

Implementation

Develop a indoor environmental management plan using the Tools for School Program. Documentation must show that there is staff allocated for the program and significant action will be taken within a two year period, such as staff training, policy implementation, development of personnel infrastructure for problem solving and reporting issues, or IAQ assessment activities such as school walk through, data collection, mapping, and/or action plans.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at only construction review.

Construction Review Requirements	
OM.C6	Provide the resolution signed by the school district (or school board or governing body for private and charter schools) requiring participation in U.S. EPA's Tools for Schools (or an equivalent program) for its schools.

Resources

EPA Tools for Schools Healthy Seat Program: http://www.epa.gov/schools/healthyseat/index.html

EPA IBEAM (IAQ Building Education and Assessment Model): http://www.epa.gov/iaq/largebldgs/i-beam/index.html

District Planning, Operations and Maintenance

OM.C7: Integrated Pest Management — 1 Point

Applicability	Verification Required		
All projects.	⊗ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Manage pests to provide the least harm to humans, the environment and school buildings.

IPM's focus on pest prevention using effective, least-toxic methods is proving practical to apply and cost-effective to operate.

Requirement

1 point	OM.C7.1 Develop and support an Integrated Pest Management (IPM) Plan that emphasizes a least-toxic approach to IPM. OM.C7.2 Design the projects exterior walls, foundation, attics, roofs, interior partitions and ceilings in food storage areas, food preparation and disposal areas, utility chases and penetrations, for integrated pest management by making it difficult for pests to enter the building including: • Blocking openings in the enclosure larger than 1/4" by 3/8". • Use mesh or screens on openings required for air flow. • Caulk all cracks larger than 1/16". • Any landscape planting must be located at least two feet from buildings. • Facades should be designed to discourage birds from roosting. • Select dumpsters that seal tightly and are easy for people to open and close, and enclosure designed to discourage pest infestation in buildings. • Make all kitchen surfaces easy to degrease.

Implementation

An appropriate IPM plan, specified to be a least-toxic approach, reduces the need to apply chemical sprays or deploy bait traps in order to control pest populations. A successful plan eliminates food, water, and shelter for pests, thereby decreasing the likelihood that pests will enter school facilities. The control of food and its restriction to appropriate locations in the facility decreases pest problems, and increases Indoor air quality through the elimination of pest contaminants and chemical control agents.

Special Considerations

Consider also designing school fencing and turf/landscape bed margins to prevent weed encroachment and the need for herbicides, including:

Installing weed barrier mow strips under fencing that is ½ inch beneath final mow height of adjacent turf, that extends at least four inches from the widest part of the fence on both sides, and that will support the deck of a mechanical mower.

Installing curbing between turf and other porous landscape features (landscape beds, gardens, mulch or sand playboxes, mulched paths, etc) that extends vertically a minimum of six inches below grade and extends four inches horizontally at the turf margin.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at design review and construction review.

Design Review Requirements	
OM.C7.2	Construction drawings must include notes identifying features included to improve pest management.
Construction Review Requirements	
OM.C7.1	Submit the Integrated Pest Management (IPM) plan.

Resources

USEPA IPM in Schools: http://www.epa.gov/pesticides/ipm/schoolipm/index.html

Beyond Pesticides: www.beyondpesticides.org

District Planning, Operations and Maintenance

OM.C8 Climate Change Action / Carbon Footprint Reporting — 2 Points

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Encourage the use of measures that reduce school contributions to greenhouse gas emissions.

The CHPS community believes that all schools should be making steps to reducing emissions of greenhouse (GHG) gases (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) that contribute to climate change. Understanding and monitoring emissions can be a powerful tool to reducing waste and inefficiency. A school's contribution to climate change begins with the impact of materials and resources used in the construction, or renovation of the school. It continues through the operation of building systems, and transportation choices to and from school. The largest non-building contributor in Hawaii to GHG emissions is transportation (48%) to and from the school site. Within the building envelope the largest contributor is electric lighting. Lastly schools contribute to GHG emissions at the end of their life cycle, when schools are re-used or deconstructed.

Requirement

1 point	OM.C8.1 The district (school governing board for private and charter schools) must join The Climate Registry to commit to calculate, report, and verify annual GHG emissions using The Climate Registry Online Reporting Tool (CRIS) software OR other CHPS Approved Climate Registry*.
1 point	OM.C8.2 Submit a district approved Transportation Plan in accordance with the CHPS Transportation Plan Template for the project that includes selected Transportation Control Measures (California HSC Section 40717 Part G) that reduce the school project's peak hour trips or Vehicle Miles Traveled (VMT) based on published values (e.g. published values by the Institute of Transportation Engineers (ITE) http://www.ite.org/tripgen/trippubs.asp or other peer reviewed publications). The plan shall include GHG emission impact reductions from transportation within two years of the project completion as calculated in accordance with international standard ISO 14044 or national standard Type III, Life Cycle Impact Profile Declarations ANSI PINS number BSR/SCS-002-200x for climate change impact reduction calculations. The Transportation Plan should include at a minimum the transport of students and faculty by personal motorized and non-motorized vehicles. Calculations of trip reductions shall be in accordance with GHG and VMT calculation methods described in the CHPS Transportation Plan Template and the Institute of Transportation Engineers (ITE) (http://www.ite.org/tripgen/trippubs.asp), State or Local Air District guidance manuals.

** For a list of CHPS approved climate registries visit: http://www.chps.net/manual/documents/climate_registries.htm*

Implementation

A copy of the completed Statement of Intent signed by the District must be submitted to CHPS along with proof of registration.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at only construction review.

Construction Review Requirements	
OM.C8.1	Provide proof of registration, contract, statement of intent or equivalent documentation demonstrating use of the Climate Action Registry Reporting Online Tool (CRIS).
OM.C8.2	Provide the Transportation Plan including GHG emission reduction estimates.

Resources

The Climate Action Registry: http://www.theclimateregistry.org/

District Planning, Operations and Maintenance

OM.C9: Green Power — 1 Point

Applicability	Verification Required		
All projects.	○ at Design Review	⊗ at Construction Review	○ at Performance Review

Intent: Reduce the use of fossil-fuel energy sources.

School districts and municipalities have the opportunity to purchase green power in the form of Renewable Energy Certificates (RECs) or through Power Purchase Agreements (PPAs). These two mechanisms allow schools to use green power without constructing an on-site renewable power system.

Requirement

1 point	OM.C9.1 Commit to purchasing green power for the project from a Green-e Energy accredited utility program (or equivalent program), through Green-e Energy certified Renewable Energy Certificates (RECs). ***OR*** Purchase renewable power offsite through a PPA (Power Purchase Agreement) equivalent to at least 15% of the school's projected annual electricity needs as modeled under EE.P1 and EE.C1 for at least five years of occupancy. If green power is purchased at the district level it must be allocated to the project.

Implementation

RECs

For each megawatt-hour of power generated and supplied to the electric grid through renewable electricity generation (solar, wind, ocean thermal, wave, tidal, landfill gas and "low emission" bio-energy sources), a REC is issued for trade on the open market. Both ***new*** and ***old*** RECs can be purchased by retail electricity suppliers or renewable electricity suppliers for resale to customers. Consumers can purchase RECs through programs or companies across the country. When a consumer purchases RECs, the RECs are effectively retired and taken out of circulation, which contributes to the increased demand for generation and sale of additional renewable electricity.

An interesting characteristic of renewable energy certificates is that they can be purchased from any location in the country. However, purchasing RECs from local generation sources means that the environmental benefits are experienced locally.

PPAs

Power Purchase Agreements are a contractual means for a site-owner and a renewable energy installer to work together to provide green power on-site when the site-owner does not wish to outright own the system. In a PPA, the system is owned and maintained by the installer (ownership may also be by a 3rd party investor), and the site-owner purchases the power generated by the system for the contracted price. Typically, PPAs are structured so that the site-owner eventually has the right to own the system. The benefits of a PPA to a site-owner are that the upfront capital costs of installation and the ongoing maintenance costs are borne by the

installer. Theoretically, a PPA allows the installer to build a larger system at the site than might otherwise be possible (site conditions are still the primary determinants of system size), therefore offsetting a larger portion of the site's fossil fuel use.

To achieve this credit, purchase a block of megawatt-hours (MWh) of renewable electricity from a REC supplier or wholesaler or through a PPA. The block of megawatt-hours purchased should equal 15% of the anticipated total electricity load of the school for two years of occupancy.

Purchasing clean energy can be documented as indicated below.

If the project developed an energy model for Energy Prerequisite EE.P1 or EE.C1, then cite the electricity load (in kWh) from the energy modeling report. Otherwise, an energy model must be developed to determine the school's total electricity loads.

Verification

For projects seeking verification through the CHPS Verified Program (Pg 12), compliance documentation is required at only construction review.

Construction Review Requirements	
OM.C9	Provide proof of purchase for Green-e Energy certified REC's or the PPA (based on load calculated under EE.P1 and EE.C1).

Resources

Green-e Energy - http://www.green-e.org/