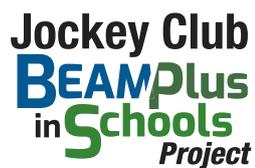


BEAM Plus Existing Schools

Version 1.0 (2022.10)



Funded by



The Hong Kong Jockey Club Charities Trust

BEAM Society Limited (BSL) is committed to creating a sustainable community and a green liveable built environment in harmony with nature through the development and implementation of BEAM Plus Assessment Tools. With the funding support from The Hong Kong Jockey Club Charities Trust, BSL in collaboration with Hong Kong Green Building Council (HKGBC), and the lead organiser, Business Environment Council (BEC), embarked on a green school project named “Jockey Club BEAM Plus in Schools Project” which is aimed at reducing carbon footprint and instilling the concept of green building into our next generation.

The Assessment Tool, BEAM Plus Existing Schools has been successfully developed to embrace various sustainability issues in the school sector.

We would like to express our heartfelt gratitude towards the funding organisation, The Hong Kong Jockey Club Charities Trust that has donated and devoted their efforts to the development of BEAM Plus Existing Schools Version 1.0.



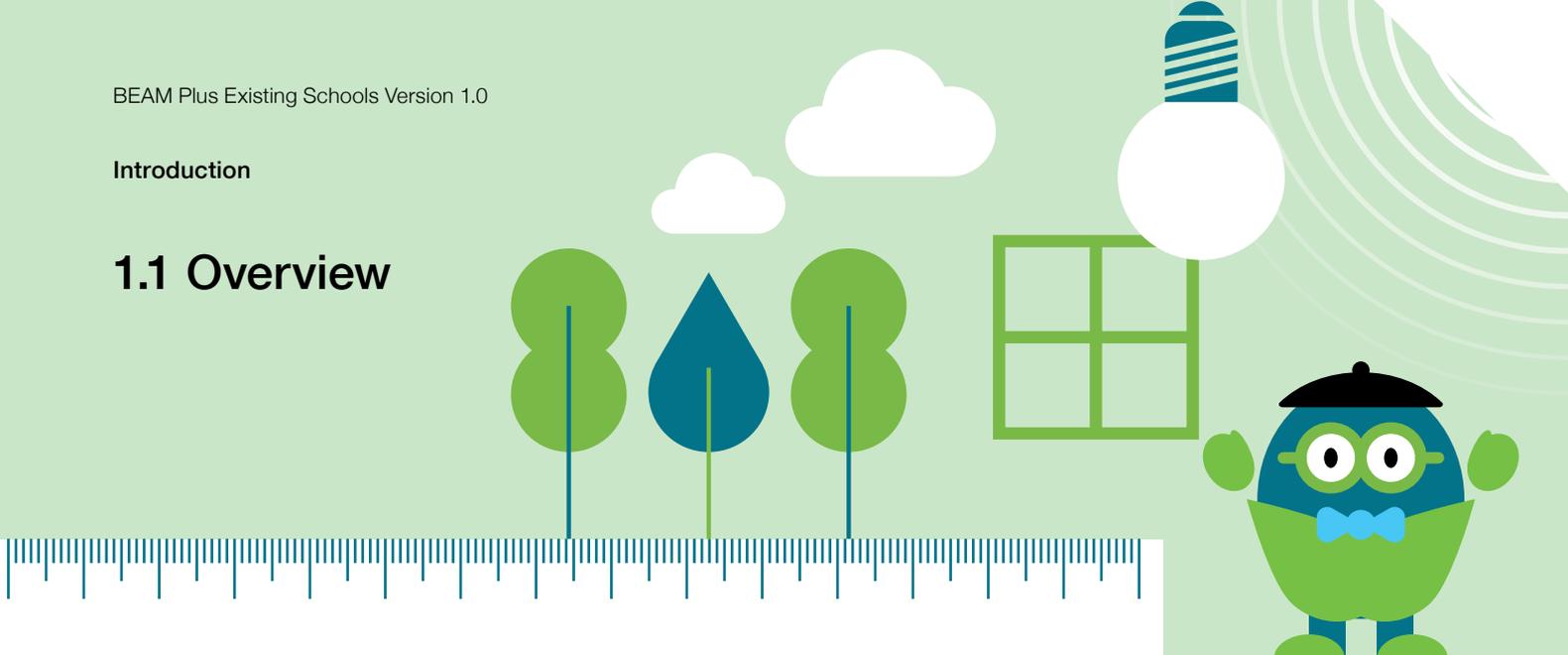
Table of Contents

1. Introduction	1
1.1 Overview	1
1.2 Framework	3
1.3 Summary of Credits	7
2. Sustainable Leadership and Learning	8
SLL-01-01 Environmental Policy, Plan and Target	9
SLL-01-02 Good Environmental Practices	11
SLL-02-01 Staff Awareness	13
SLL-02-02 Green Prefect	15
SLL-02-03 Extended Environmental Education	16
SLL-02-04 Other Learning Experiences	18
SLL-03-01 Environmental Corner	19
SLL-03-02 Environmental Communication	20
3. Efficient Use of Resources	21
EUR-01-01 Energy Efficient Equipment	22
EUR-01-02 Energy Efficient Measures	26
EUR-01-03 Renewable Energy	28
EUR-01-04 Water Efficient Fixtures	29
EUR-01-05 Water Efficient Measures	31
EUR-01-06 Recycling Facilities	32
EUR-02-01 School Environmental Performance	34
EUR-02-02 Carbon Audit	36
EUR-02-03 Data Disclosure	37
4. Sustainable Campus Environment	38
SCE-01-01 Campus Greening	39
SCE-01-02 Agriculture Education	40
SCE-02-01 Low Carbon Commuting	42
SCE-02-02 Neighbourhood Amenities	44
SCE-02-03 Shared-Use Facilities	45
SCE-03-01 Response to Extreme Weather	46
5. Health, Comfort & Happiness	47
HCH-01-01 Healthy Air	48
HCH-01-02 Openable Windows	50
HCH-01-03 Illuminance Levels	51
HCH-01-04 Background Noise	52
HCH-02-01 Drinking Water Quality	53
HCH-02-02 Healthy Lifestyle	55
HCH-03-01 Health Protection Measures	57



Introduction

1.1 Overview



BEAM

Building Environmental Assessment Method (BEAM) Plus is a comprehensive environmental assessment tool for buildings which is carried out on a voluntary basis. It defines the best practice criteria for a range of sustainability issues across the whole life cycle of buildings and projects, such as how buildings should be designed, constructed and operated. Recognised as one of the world's leading green building assessment tools, it provides a comprehensive set of performance standards that can be pursued by owners, operators and users.

BEAM Plus Existing Schools Version 1.0 (ES v1.0)

BEAM Plus Existing Schools Version 1.0 (ES v1.0) aims to be simple, practical, clear and educational in defining the key elements of green schools including leadership & learning, efficient use of resources, sustainable campus environment and health & wellbeing. During the development process, the following three fundamental principles were established:

Unique – The assessment criteria are specific in assessing the environmental performance of existing primary and secondary schools in Hong Kong and are better defined with more assurance of the applicability of the criteria.

Simple – A handy yet precise green building rating tool to assess the environmental performance of existing schools in Hong Kong.

Education – Promoting behavioural change and increasing the awareness of sustainability among stakeholders including, but not limited to teachers, parents and students through BEAM Plus Certification.

BEAM Plus ES v1.0 puts emphasis on schools' top management commitment, adopts the 'Plan-Do-Check-Act' approach for continual improvement, and the foremost, drives behavioural change through education.

BEAM Society Limited (BSL)

BEAM is owned and operated by BEAM Society Limited (BSL), an independent non-profit public body whose membership is drawn from various professionals and interest groups in Hong Kong's building construction and real estate sectors. BSL is committed to developing and implementing the BEAM Plus assessment tools, assessing green buildings and to train green building practitioners.

Hong Kong Green Building Council (HKGBC)

Hong Kong Green Building Council (HKGBC) was established in 2009 as Hong Kong's industry body that coordinates efforts towards green building. HKGBC certifies BEAM Plus projects, accredits BEAM Professional (BEAM Pro), BEAM Affiliate (BA) and BEAM Assessor (BAS).

Development of BEAM Plus ES v1.0

The development of BEAM Plus ES v1.0 was led by a BSL Steering Committee comprising various practitioners and experts in the building industry and education sector. Industry stakeholders have been consulted via engagement workshops for feedback and opinion on areas, including, but not limited to the overall framework, assessment criteria, performance categories and their relative importance, submission requirements and grading methodology. The Steering Committee comprises:

Convener – Ar Tony IP

Members – Mr Kim On CHAN, Dr Sylvia CHAN, MH, Ir Kim Tang CHEUK, Ar Thomas CHEUNG, Ar Yvonne IEONG, Ms Vivian LEE, Ar Man Kit LEUNG, Ir Kenneth LI, Ir Alvin LO, Ir Dr Chun Sing WONG, Mr Ka Leong WONG, Mr Keith WONG, Ir Matt YAU, Sr Kenneth YUN

Advisors – Mr Desmond CHENG, Mr German CHEUNG, Ms Judy LAU, Mr Stephen YIM, Dr Sherman YIP



Disclaimer

BEAM Plus ES v1.0 has been prepared with the assistance and participation of various individuals and representatives from different organisations. The outcome represents a consensus, but unanimous support from each and every organisation and individual consulted is not implied. This documentation shall be revised on a regular basis and as frequently as necessary. BSL reserves the right to amend, update and change this Manual from time to time without prior notice. Where changes in regulations necessitate changes to the assessment criteria, they will be issued to all parties involved in an assessment and will be announced in the BSL's website. An appropriate transitional period shall be allowed for projects undergoing assessment process.

It should be noted that BSL does not provide any warranties or assume any liability or responsibility to the users of BEAM Plus, or any third parties for the accuracy, completeness or use of, or reliance on, any information contained in BEAM Plus, or from any injuries, losses, or damages arising out of such use or reliance.

As a condition of use, users covenant not to sue, and agree to waive and release BSL, its members and Steering Committee members from any and all claims, demands and causes of actions for any injuries, losses and damages that users may now or hereafter have a right to assert against such parties as a result of the use of, or reliance of BEAM.

Limitations

BSL does not endorse any self-assessed grading awarded by the use of BEAM Plus ES v1.0.

HKGBC offers a formal certification process of grading, this service provides independent third-party review of credit heads claimed to ensure all credit points can be demonstrated to be achieved by the provision of the necessary documentary evidence. The use of BEAM Plus ES v1.0 without formal certification does not entitle the user or any other party to promote any grading awarded.

Application and Eligibility

BEAM Plus ES v1.0 attempts to cover the management, operation and maintenance, education, health and wellbeing of existing primary and secondary schools.

BEAM Plus does not assess any unauthorised or any unauthorised portions of any buildings, i.e. any buildings or building works not complying with the Buildings Ordinance. In case any non-compliance works or unauthorised portions in a building are reported, both HKGBC and BSL reserve the right to deprive the awarded rating from the Applicant.

Assessment Boundaries

The project boundary to undergo the BEAM Plus ES v1.0 assessment shall follow the site boundary of the schools or as defined by the Applicant and shall be consistent throughout the project assessment.

Certification Framework

Assessment under BEAM Plus ES v1.0 focuses on the daily operation of the schools, the Applicant shall prepare adequate school operation data for assessment. In general, the period of the operation data shall cover at least a 12-month period up to 18 months before the 1st submission unless otherwise specified.

Certification Process

The submission is independently assessed by BSL, followed by the issuance of certification by the HKGBC. Details of the assessment procedures can be found in the BEAM Plus Procedures Manual (Assessment) which are available in HKGBC and BSL websites.

Certification Fee

BEAM Plus Existing Schools certification fee comprises 2 parts, namely Registration Fee and Assessment Fee which are payable to HKGBC and BSL respectively. Details of the fee structure can be found in HKGBC and BSL websites.

Credit Interpretation Request (CIR)

CIR is designed to allow project teams to obtain specific guidance on whether certain BEAM Plus credit heads can be fulfilled pertaining to the special design of a project. Details on CIR can be found in HKGBC and BSL websites.

Appeal

The Applicants may submit an appeal on an individual credit head if they disagree to and/ or do not accept on the decision made by the BSL. More details can be found in HKGBC and BSL websites.



Introduction

1.2 Framework

Two-book system

BEAM Plus ES v1.0 adopts a Two-book system, as outlined below, with an aim to facilitate the Applicant throughout the certification process:

Assessment Manual:

- The Assessment Manual sets out the overall assessment framework, design intention, assessment criteria and submittal requirement of each credit head; and
- Provide additional reference as extended reading materials for the user, making this Manual a green building reference book for existing schools.

Technical Guidebook:

- Provide further interpretation of the assessment requirement for each credit head;
- Illustrate with step-by-step calculation examples; and
- Provide calculation and document templates as reference.

Performance Categories

The assessment framework of BEAM Plus ES v1.0 comprises five new performance categories in assessing the all-around environmental performance of an existing school, including education, leadership, efficient use of resources, school ground, indoor environment, wellbeing and innovations & enhancements:

- Sustainable Leadership and Learning (SLL);
- Efficient Use of Resources (EUR);
- Sustainable Campus Environment (SCE);
- Health, Comfort & Happiness (HCH); and
- Innovations and Additions (IA).

In order to identify the nature of the credit head, attribute(s) of each credit head are identified in relation to the eight building performance categories in the BEAM Plus family.



Sustainable Leadership and Learning (SLL)

This section focuses on policies, procedures and strategies implemented to ensure schools are operated in an integrated sustainable manner. The following elements are assessed under this performance category:

- Top Management Commitment
- Environmental Plan & Policy
- Target Setting
- Environmental Education
- Communication & Engagement
- Evaluation
- Partnership
- Knowledge Sharing
- Green Prefect



Efficient Use of Resources (EUR)

Efficient use of resources not only helps to reduce energy and water consumptions and school carbon footprint, but also contributes in promoting circular economy through recycling and upcycling. The following elements are assessed under this performance category:

- Energy Saving
- Decarbonisation
- Renewable Energy
- Waste Management
- Recycling Practices & Facilities
- Resources Management
- Efficient & Smart Equipment
- Smart Monitoring
- Benchmarking & Disclosure



Sustainable Campus Environment (SCE)

This section focuses on school campus environment, from microclimate and biodiversity enhancement to integration with neighbourhood community and preventive measures in response to extreme weather conditions. The following elements are assessed under this performance category:

- Campus Greening
- Biodiversity
- Nature Conservation
- Urban Agriculture
- Community Engagement
- Climate Resilience



Health, Comfort & Happiness (HCH)

This section focuses on school indoor environmental quality and health & wellbeing of school occupants, from healthy lifestyles, mindfulness, to comfort and happiness. The following elements are assessed under this performance category:

- Healthy Air
- Natural Ventilation
- Lighting Quality
- Acoustics
- Healthy Living
- Hygiene
- Health Protection



Innovations and Additions (IA)

In this section, schools are encouraged to adopt innovative green features and/ or green ideas to improve the school's environmental performance and Applicants are encouraged to submit proposals for BSL consideration.

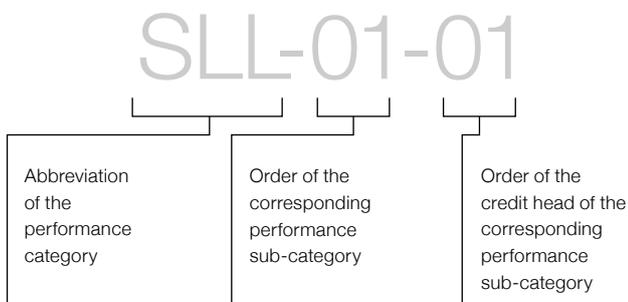


Credit Allocation

Credit points have been broadly allocated to each assessment criterion by taking into account the other internationally recognised green building assessment tools as well as the sensitivity analysis and the comments received during the stakeholder engagement workshops.

Credit Code

BEAM Plus assessment tools adopt the same nomenclature. The classification of each credit head is divided into three levels which includes: i) Performance Category, ii) Performance Sub-category and iii) Credit Head.



The coding system of each credit consist of English letters and Arabic numbers. The first level of the coding system is the performance category which adopts the abbreviation of the performance category. The second level is coded by Arabic numbers to present the corresponding performance sub-category. The third level represents the order of credit head.

Prerequisites

Prerequisites are not applicable under BEAM Plus ES v1.0.

Bonus Credit Points

The Applicant is encouraged to pursue Bonus credit point under the Innovations and Additions of BEAM Plus ES v1.0. Bonus credit points are counted towards the total number of credits contributing to the overall score. A maximum of 10 Bonus credit points could be submitted for achieving a higher score in the assessment.



Credit Summary

The credit summary is a one-stop checklist for the users to provide project information, credit point achievement and document checklist to guide the users in preparation of the BEAM Plus submission.

Documentation Requirements

The documentation requirements are standardised and categorised as follows:

Submittals Category	Description
 Drawings	Architectural/ engineering drawings, layout plan, sketch drawings, survey map, etc.
 Records	Photographs/ Screen Capture, documentation (e.g. implementation records, training records, teaching records, utility bills, waste disposal and recycling records, certificates, etc.)
 Technical Documents	Calculations, technical reports, technical specifications, catalogues, schedule, product registry, etc.
 Management Documents	School top-level management plan, action plan, policy, procedure, school annual report, shared-use policy, terms and conditions, etc.
 Narratives	Descriptive document, summary table, inspection checklist, teaching materials, teaching plan, etc.

“Lots of Credit Points to be gained”





Determination of Overall Grade

To echo the “simple” principle, BEAM Plus ES v1.0 embraces the following features:

- No pre-requisite requirements;
- No category weighting factors for different performance categories; and
- Simplified scoring system by simply add up the score achieved out of the pool of 100 credits to determine the grade.

The final certificate under BEAM Plus ES v1.0 is awarded in accordance with the following achievement:

Grade	Achievement	
Green	Overall score: ≥ 50	
Green + Outstanding Performance: i. Sustainable Leadership and Learning ii. Efficient Use of Resources iii. Sustainable Campus Environment iv. Health, Comfort & Happiness	Overall score: ≥ 50 + % of credit point achievement in individual performance category $\geq 70\%$	

If the overall credit point achievement is less than 50, the school will be graded as “Unclassified”. Detailed illustration on determining the rating is provided in *Appendix 7.2* for reference.



Introduction

1.3 Summary of Credits

Performance Category	Performance Sub-Category	Credit Head Items	Credit Point(s)
<p>Sustainable Leadership and Learning (SLL)</p>	High Level Commitment	SLL-01-01 Environmental Policy, Plan and Target	6
		SLL-01-02 Good Environmental Practices	15
	Environmental Learning	SLL-02-01 Staff Awareness	1
		SLL-02-02 Green Prefect	1
		SLL-02-03 Extended Environmental Education	2
		SLL-02-04 Other Learning Experiences	5
	Engagement	SLL-03-01 Environmental Corner	2
		SLL-03-02 Environmental Communication	1
			33
<p>Efficient Use of Resources (EUR)</p>	Decarbonisation Actions	EUR-01-01 Energy Efficient Equipment	5
		EUR-01-02 Energy Efficient Measures	6
		EUR-01-03 Renewable Energy	2
		EUR-01-04 Water Efficient Fixtures	4
		EUR-01-05 Water Efficient Measures	5
		EUR-01-06 Recycling Facilities	3
	Benchmarking and Disclosure	EUR-02-01 School Environmental Performance	9
		EUR-02-02 Carbon Audit	1
		EUR-02-03 Data Disclosure	1
			36
<p>Sustainable Campus Environment (SCE)</p>	Biophilia	SCE-01-01 Campus Greening	5
		SCE-01-02 Agriculture Education	1
	Neighbourhood Integration	SCE-02-01 Low Carbon Commuting	2
		SCE-02-02 Neighbourhood Amenities	1
	SCE-02-03 Shared-Use Facilities	1	
Climate Resilience	SCE-03-01 Response to Extreme Weather	5	
			15
<p>Health, Comfort & Happiness (HCH)</p>	Healthy Indoor Environment	HCH-01-01 Healthy Air	1
		HCH-01-02 Openable Windows	1
		HCH-01-03 Illuminance Levels	1
		HCH-01-04 Background Noise	1
	Healthy Living	HCH-02-01 Drinking Water Quality	1
		HCH-02-02 Healthy Lifestyle	6
	Health Protection	HCH-03-01 Health Protection Measures	5
			16
<p>Innovations and Additions</p>	Innovations and Additions	IA-01-01 Innovations and Additions	10B

Total Credit Points 100+ 10B

2. Sustainable Leadership and Learning



2.1 SLL-01 High Level Commitment

2.2 SLL-02 Environmental Learning

2.3 SLL-03 Engagement

Introduction: Effective management is the key factor for better environmental performance. This performance category assesses the overarching school leadership, from top management commitment, sustainable awareness to environmental education and engagement. The objective of this performance category aims to drive behavioural change of school users through soft-side measures and education.

2.1 SLL-01 High Level Commitment

SLL-01-01 Environmental Policy, Plan and Target

SLL-01-02 Good Environmental Practices

Background: To encourage school's top management to commit in the improvement of their environmental performance in terms of energy, water and waste recycling through setting up policy, target, planning, engagement and implementing good environmental practices.

2.2 SLL-02 Environmental Learning

SLL-02-01 Staff Awareness

SLL-02-02 Green Prefect

SLL-02-03 Extended Environmental Education

SLL-02-04 Other Learning Experiences

Background: Staff skills and experience are important in improving school environmental performance. Adequate training for school staff is therefore essential to enhance awareness among teachers and staff on school's environmental and sustainability performance, i.e., concept of train the trainer.

Proactive education and organising various types of school-wise activities can help enhancing student's environmental awareness, to develop green habits and act as role model for peers in school on environmental protection and sustainability issues through engagement and participation.

2.3 SLL-03 Engagement

SLL-03-01 Environmental Corner

SLL-03-02 Environmental Communication

Background: Effective communication, both internal and external, ensures exchanging of environmental knowledge and offers feedback channel to improve school's environmental performance.



Sustainable Leadership and Learning
SLL-01 High Level Commitment

SLL-01-01 Environmental Policy, Plan and Target

Objective:

Encourage high level's commitment in improving school's environmental performance.

Credit Point(s):

6

Attribute:



#Management

Credit Requirement:

(a) Environmental Policy

Provide an endorsed environmental policy.

1

(b) Environmental Targets

Set up environmental objectives and targets for school.

1

(c) Environmental Management Plan

Provide an endorsed environmental management plan.

2

(d) Green Purchasing Plan

Provide an endorsed green purchasing plan.

1

(e) Electronic Operation and Maintenance (O&M) Facility

Set up an electronic O&M platform in school.

1

Assessment:

(a) Environmental Policy

The Applicant shall provide an environmental policy endorsed by the school top management to demonstrate the commitment.

(b) Environmental Targets

The Applicant shall provide the environmental targets endorsed by the school top management.

(c) Environmental Management Plan

Maximum **2** credit points could be achieved with the environmental management plan covering at least 2 of the following aspects: i. Energy; ii. Water; iii. Waste; or iv. Carbon footprint reduction.

(d) Green Purchasing Plan

The green purchasing plan shall include the procurement requirements for both on-going consumables and durable goods.

(e) Electronic Operation and Maintenance Facility

The Applicant shall provide a narrative to describe the electronic operation and maintenance (O&M) platform adopted in the school.

**Submittals:****Supporting Documents****Types****(a) Environmental Policy**

1. A copy of *environmental policy* endorsed by the school's principal or his/ her delegate.

**(b) Environmental Targets**

1. A copy of *environmental targets* endorsed by the school's principal or his/ her delegate.

**(c) Environmental Management Plan**

1. A copy of *environmental management plan* endorsed by the school's principal or his/ her delegate.

**(d) Green Purchasing Plan**

1. A copy of *green purchasing plan* endorsed by the school's principal or his/ her delegate.

**(e) Electronic Operation and Maintenance Facility**

1. One-page *narrative* describing the electronic O&M platform.
2. *Screenshot records* showing the following documents are uploaded to the electronic platform:
 - i. School layout plan; ii. Engineering drawings; and iii. O&M instructions.

**Additional Information:**

1. Environmental Protection Department, Green Procurement. [ONLINE].
Available at: https://www.epd.gov.hk/epd/english/how_help/green_procure/green_procure.html
2. School Purchase Green, School Green Product Platform. [ONLINE].
Available at: <https://www.schoolpurchasegreen.com/>
3. U.S. Environmental Protection Agency, Healthy School Environments. [ONLINE].
Available at: <https://www.epa.gov/schools>
4. WWF-Hong Kong, School Procurement Policy. [ONLINE].
Available at: https://d3q9070b7kewus.cloudfront.net/downloads/wwf_school_procurement_policy.pdf



Sustainable Leadership and Learning
SLL-01 High Level Commitment

SLL-01-02 Good Environmental Practices

Objective:

Adopt good environmental practices to uplift school's environmental performance

Credit Point(s):

15

Attribute:



#Materials and Waste



#Energy Use



#Water Use

Credit Requirement:

(a) Environmental Conversation

Implement at least 5 good energy conservation practices.

5

(b) Water Conservation

Implement at least 5 good water conservation practices.

5

(c) Waste & Recycling

Implement at least 5 good waste & recycling practices.

5

Assessment:

The Applicant shall adopt different good practices to uplift school's environmental performance through the following approaches:



Energy Conservation



Water Conservation



Waste & Recycling

Energy saving opportunities	Water saving opportunities	Advocate the 4R concepts
Energy management opportunities	Water management opportunities	
Monitoring and maintenance	Monitoring and maintenance	
Use of natural ventilation		

The Applicant shall refer to the Technical Guidebook for a list of recommended good practices.

Submittals:

Supporting Documents

Types

1. A short *narrative* describing the implemented good environmental practices.





Additional Information:

1. Education Bureau, Effective Use of Resources in Schools. [ONLINE].
Available at: <https://www.edb.gov.hk/en/sch-admin/admin/about-sch/effective-use-sch-resources/index.html>
2. Water Supplies Department, Cherish Water Campus. [ONLINE].
Available at: <https://www.waterconservation.gov.hk/en/at-school/index.html>
3. WWF-Hong Kong, Mainstreaming Sustainability into Local Primary School Curriculum Best Practices Manual. [ONLINE].
Available at: https://www.wwf.org.hk/en/reslib/education/green_cities/



Sustainable Leadership and Learning
SLL-02 Environmental Learning

SLL-02-01 Staff Awareness

Objective:

Enhance awareness among staff members on school's environmental and sustainability issues.

Credit Point(s):

1

Attribute:



#Management

Credit Requirement:

Staff members to attend training on environmental and sustainability issues.

1

Assessment:

1. Training records of staff members shall be provided for assessment.
2. The themes and topics of the training shall be related to environmental and sustainability issues.
3. There is no requirement on minimum training hours for staff members.

Submittals:

Supporting Documents

Types

1. *Training records* of the staff members.



Additional Information:

1. Agriculture, Fisheries and Conservation Department, Conserving Our Coral Education Kit. [ONLINE]. Available at: https://www.afcd.gov.hk/english/conservation/con_mar/con_mar_cor/education.html
2. Electrical and Mechanical Services Department, Educational Resources [ONLINE]. Available at: https://re.emsd.gov.hk/english/gen/educational/edu_local.html.
3. Environmental Protection Department, Environmental Education & Awareness in Hong Kong. [ONLINE]. Available at: https://www.epd.gov.hk/epd/english/envir_education/enviredu_aware/overview.html
4. Environmental Protection Department, Low-carbon and Green Living Tips. [ONLINE]. Available at: https://www.epd.gov.hk/epd/english/climate_change/low_carbon_tips.html
5. Green Power, Education Resources [ONLINE]. Available at: <https://www.greenpower.org.hk/html5/eng/publication.shtml>



6. Hong Kong Green Building Council, Hong Kong Green School Guide. [ONLINE].
Available at: <https://www.hkgbc.org.hk/eng/engagement/guidebooks/green-school-guide/index.jsp>
7. Hong Kong Wetland Park, Teaching Resource. [ONLINE].
Available at: <https://www.wetlandpark.gov.hk/en/download/teaching-resources>
8. Kadoorie Farm and Botanic Garden, Educational Resources. [ONLINE].
Available at: <https://www.kfbg.org/en/educational-resources>
9. Outdoor Wildlife Learning Hong Kong, Publications and Resources. [ONLINE].
Available at: <https://www.owlhk.org/en/publication-and-resources>
10. Water Supplies Department, Education on Water Conservation. [ONLINE].
Available at: <https://www.waterconservation.gov.hk/en/at-school/index.html>
11. WWF-Hong Kong, Education Resources. [ONLINE].
Available at: <https://www.wwf.org.hk/en/reslib/education/>



Sustainable Leadership and Learning SLL-02 Environmental Learning

SLL-02-02 Green Prefect

Objective:

Enhance students' environmental awareness, develop green habits and act as role model for peers in school on environmental and sustainability issues.

Credit Point(s):

1

Attribute:



#Management

Credit Requirement:

Appoint Green Prefect in each class to enhance student's environmental awareness and build up green habits.

1

Assessment:

- Schools shall appoint adequate number of green prefects as follows:

Role	Criteria
Teacher Advisor	At least 1 per school
Head of Green Prefect	At least 1 per school
Green Prefect	At least 1 from each class

- Inspection checklists shall be provided for assessment.
- Alternatively,**
 - 1 credit point can be achieved for submitting a valid Certificate of Appreciation of Green Prefect (GP) programme issued by the Environmental Campaign Committee (ECC) to demonstrate the participation of GP programme.

Submittals:

Supporting Documents

Types

- | | |
|--|--|
| 1. A <i>summary table</i> listing the appointed green prefects and responsible teacher advisor(s). | |
| 2. Samples of completed <i>inspection checklists</i> . | |
| 3. <i>Photographic records</i> of the inspection. | |
| 4. <i>Copy of Certificate of Appreciation</i> issued by ECC. (For Alternative Route). | |

Additional Information:

- Environment and Ecology Bureau, Environmental Campaign Committee, Green Prefect (GP) Programme. [ONLINE].
Available at: <https://school.ecc.org.hk/en/programmes/gpp.html>



Sustainable Leadership and Learning
SLL-02 Environmental Learning

SLL-02-03 Extended Environmental Education

Objective:

Develop students' knowledge, awareness and attitudes on environmental protection.

Credit Point(s):

2

Attribute:



#Management

Credit Requirement:

Maximum ② credit points for integrating environmental education into curriculum for classes at different levels.

2

Assessment:

- The content of the teaching materials shall be **beyond** the requirements of Education Bureau's (EDB's) teaching syllabus.
- The extended teaching materials shall cover at least 2 or 4 topics as stated below to achieve ① or ② credit points, respectively.

Energy conservation	Water conservation	Green building
Resources management	Biodiversity & nature conservation	Introduction of UN's Sustainable Development Goals
Climate change	Fair-trade	Other themes proposed by the Applicant

- There is no minimum requirement on the teaching hour, content, format and style of the teaching materials.

Submittals:

Supporting Documents

Types

- A *narrative/ teaching plan* describing the teaching materials.



- Softcopies of sample *teaching materials*.



Additional Information:

- Agriculture, Fisheries and Conservation Department, Education Events. [ONLINE]. Available at: https://www.afcd.gov.hk/english/conservation/Con_hkbsap/bsap_biodiversity_events/bsap_biodiversity_events.html
- Environmental Campaign Committee, Environmental Education Programme. [ONLINE]. Available at: <https://school.ecc.org.hk/en/resources/edu-programmes.html>



3. Electrical and Mechanical Services Department, Educational resources [ONLINE].
Available at: https://re.emsd.gov.hk/english/gen/educational/edu_local.html
4. Environmental Protection Department, Environmental Education & Awareness in Hong Kong. [ONLINE].
Available at: https://www.epd.gov.hk/epd/english/envir_education/edu_maincontent.html
5. Green Power, Education resources [ONLINE].
Available at: <https://www.greenpower.org.hk/html5/eng/publication.shtml>
6. Hong Kong Green Building Council, Introduction of Green Building [ONLINE].
Available at: <https://www.hkgbc.org.hk/eng/about-us/what-is-green-building/index.jsp>
7. Hong Kong Wetland Park, School Programme. [ONLINE].
Available at: <https://www.wetlandpark.gov.hk/en/education/teacher-frontpage>
8. Outdoor Wildlife Learning Hong Kong, Publications and resources. [ONLINE].
Available at: <https://www.owlhk.org/en/publication-and-resources>
9. United Nations, The 17 Sustainable Development Goals (SDGs) [ONLINE].
Available at: <https://sdgs.un.org/goals>
10. Water Supplies Department, Cherish Water Campus. [ONLINE].
Available at: <https://www.waterconservation.gov.hk/en/at-school/index.html>
11. Water Supplies Department, Education on Water Conservation. [ONLINE].
Available at: <https://www.waterconservation.gov.hk/en/at-school/index.html>
12. Wetland Park, Nature Discovery Project Learning Resource Pack. [ONLINE].
Available at: <https://www.wetlandpark.gov.hk/en/download/booklets-nature-discovery>
13. WWF-Hong Kong, Education resources. [ONLINE].
Available at: <https://www.wwf.org.hk/en/reslib/education/>



"Learning about
our environment"





Sustainable Leadership and Learning
SLL-02 Environmental Learning

SLL-02-04 Other Learning Experiences

Objective:

Promote environmental and sustainability awareness among students and staff members through engagement and participation in school activities.

Credit Point(s):

5

Attribute:



#Management

Credit Requirement:

(a) Duration of Other Learning Experiences

Organise at least 10 hours of environmental activities.

1

(b) Type of Other Learning Experiences

Organise 4 different types of environmental activities.

4

Assessment:

(a) Duration of Other Learning Experiences

The Applicant is required to demonstrate at least 10 hours of environmental activities were organised.

(b) Type of Other Learning Experiences

1 credit point for organising any 1 type of the following activities.

Maximum 4 credits points can be achieved.

Education talk	In-class training course	Environmental competition
Participation in BEAM Plus submission	Green building tour	Training video
Education digital game	Field trip study	Environmental week

Other activities proposed by the Applicant

The participation rate is not assessed under this credit head.

Submittals:

Supporting Documents

Types

1. A *summary table* summarising the information of the organised school activities.



2. *Implementation records* of the organised activities.



Additional Information:

- Environmental Protection Department, Environmental events and activities. [ONLINE]. Available at: https://www.epd.gov.hk/epd/english/news_events/events/events.html
- Leisure and Cultural Services Department, Green Hong Kong Campaign [ONLINE]. Available at: <https://www.lcsd.gov.hk/en/green/index.html>



Sustainable Leadership and Learning
SLL-03 Engagement

SLL-03-01 Environmental Corner

Objective:

Promote environmental awareness through regular sharing of the latest environmental and sustainability news bulletin and information.

Credit Point(s):

2

Attribute:



#Management

Credit Requirement:

(a) Environmental Corner Display

Display school’s environmental policy, targets, and environmental performance at the Environmental Corner.

1

(b) Environmental Bulletins

Share news bulletin or learning materials that covers at least 2 different environmental topics at the Environmental Corner.

1

Assessment:

(a) Environmental Corner Display

- Schools shall have an Environmental Corner with adequate environmental information and learning materials covered.
- The following items shall be displayed at the Environmental Corner/ Board:

School’s environmental policy and targets

PLUS at least 2 of the following environmental performance indices:	
Annual electricity consumptions	Annual fresh water consumptions
Energy Utilisation Index (EUI)	Water Efficient Index (WEI)
Resource Recycling Index (RRI)	Carbon footprint

(b) Environmental Bulletins

- News bulletins or learning materials shall be shared at the Environmental Corner. The information must cover at least 2 of the following environmental topics:

Energy conservation	Water conservation
Green building	Biodiversity & nature conservation
Resources management	Introduction of UN’s Sustainable Development Goals
Climate change	Fair-trade

Other themes proposed by the Applicant

Submittals:

Supporting Documents

Types

- Photographs* or *screen captures* (if electronic platform is adopted) demonstrating the required information is posted at the Environmental Corner/ Board.





Sustainable Leadership and Learning

SLL-03 Engagement

SLL-03-02 Environmental Communication

Objective:

Promote environmental awareness through regular exchange of knowledge and feedback.

Credit Point(s):

1

Attribute:



#Management

Credit Requirement:

To set up communication channels for students, teachers and staff members to exchange and share knowledge/ feedback on school environmental issues.

1

Assessment:

The Applicant shall set up at least 2 of the following communication channels for exchanging and sharing knowledge/ feedback on school environmental issues:

Suggestion box	Assembly talk	Recess/ Lunch break sharing session
Open day	Sharing on Joint-school or outside event	Environmental related programmes organised by Parent-Teacher Association
Campus TV channel	Other communication channels proposed by the Applicant	

Submittals:

Supporting Documents

Types

1. A *narrative* describing the communication channels adopted.



3. Efficient Use of Resources

3.1 EUR-01 Decarbonisation Actions

3.2 EUR-02 Benchmarking and Disclosure

Introduction: One of the objectives of BEAM Plus Existing Schools is to encourage continual improvements in school's environmental performance. Efficient use of resources, not only helps to reduce energy and water consumptions, and carbon footprint, but also contributes in promoting circular economy through recycling and upcycling process.

The assessment requirements in this performance category embrace the "Plan-Do-Check-Act" concept, with planning of hardware upgrades, soft-side measures, continuous monitoring, benchmarking and data disclosure. Schools are able to better understand the impacts of their operation and activities, set goals, measure performance and identify risks and opportunities to achieve continual improvements in school's environmental performance.

3.1 EUR-01 Decarbonisation Actions

- EUR-01-01 Energy Efficient Equipment**
- EUR-01-02 Energy Efficient Measures**
- EUR-01-03 Renewable Energy**
- EUR-01-04 Water Efficient Fixtures**
- EUR-01-05 Water Efficient Measures**
- EUR-01-06 Recycling Facilities**

Background: One of the most effective ways to improve school's environmental performance is to retrofit energy efficient equipment and establish environmentally friendly facilities. To maximise the improvement, school shall also implement different efficient measures proactively.

3.2 EUR-02 Benchmarking and Disclosure

EUR-02-01 School Environmental Performance

EUR-02-02 Carbon Audit

EUR-02-03 Data Disclosure

Background: This section requires schools not only to report the environmental performance index, but also to establish saving targets and apply measures to achieve continual improvement in energy, water, carbon footprint, recycling and upcycling.

By carrying out carbon audit, schools can review its greenhouse gas (GHG) emissions and carbon footprints in their daily operation, identify opportunities, establish targets and implement measures to make positive contribution towards carbon neutrality.

Disclosing school's environmental performance to public not only enhances the data transparency, but also showcases its environmental leadership and provides opportunity to benchmark the environmental performance in the school sector.



Efficient Use of Resources

EUR-01 Decarbonisation Actions

EUR-01-01 Energy Efficient Equipment

Objective:

Encourage the use of energy efficient equipment to improve school's energy performance.

Credit Point(s):

5

Attribute:



#Energy Use

Credit Requirement:

(a) Air Conditioning Units

For schools equipped with window-type and split-type air conditioning (A/C) units:

Retrofit all window-type and split-type air conditioning (A/C) units with EMSD Grade 1 Energy Efficiency Label.

Alternatively,

100% of the A/C units installed in the school are certified with EMSD Grade 1 Energy Efficient Label.

1

For schools equipped with other A/C equipment:

Compliance Route 1:

Demonstrate performance improvement is achieved against the Building Energy Code for all Multi-split type/ Variable Refrigerant Flow (VRF) systems and chillers (if applicable) and all A/C water pumps, and cooling tower fans (if applicable) are Variable Speed Drive (VSD) driven.

Compliance Route 2:

Chilled water is supplied from District Cooling System (DCS) plant.

1

(b) School Equipment

Procure at least 3 types of school equipment with Energy Efficient Label.

Alternatively,

100% of at least 3 types of school equipment are certified with Energy Label.

1

(c) Efficient Lighting System

At least 30% of the school floor areas are served by LED lighting.

1

(d) Use of Task Lighting

Provision of task lighting at staff rooms and general offices.

1

**Assessment:****(a) Air Conditioning Units**

1. For schools equipped with window-type and split-type air conditioning (A/C) units:
 - 1.1 **1** credit point can be achieved if the A/C units retrofitted within the past 3 years are certified with EMSD Grade 1 Energy Efficiency Label.
 - 1.2 Alternatively, if no retrofitting works were carried out in the past 3 years, credit point can also be achieved if 100% of the A/C units installed in the school are certified with EMSD Grade 1 Energy Efficiency Label.
2. For schools equipped with other A/C equipment:
 - 2.1 Compliance Route 1:
 - 2.1.1 **1** credit point can be achieved if the A/C units/ associated components fulfill the following requirements:

Types of A/C units/ Associated components	Requirement
Multi-split type/ VRF system	The minimum coefficient of performance (COP) should be 2% better than specified requirement under the applicable version of the Building Energy Code at the time of installation works.
Chillers	
A/C water pump	VSD driven
Cooling tower fan	

2.2 Compliance Route 2:

- 2.2.1 **1** credit point can be achieved if chilled water is provided from DCS plant.

(b) School Equipment

3. Demonstrate at least 3 types of the following listed equipment procured within the past 3 years are with EMSD Energy Label or ENERGY STAR certified:

Photocopiers	Multifunction devices	Printers
LCD monitors	Fax machines	Hot/ Cold bottled water dispensers
Refrigerators	Televisions	Computers

4. Alternatively, if no procurement was carried out in the past 3 years, credit point can also be achieved if at least 3 types of the above school equipment are 100% certified with EMSD Energy Label or ENERGY STAR.

(c) Efficient Lighting System

Demonstrate at least 30% of school floor areas are installed with LED lighting fixtures.

(d) Provision of Task Lighting

Provide task lighting for teachers and staff members for at least 80% of the workstations in staff rooms and general offices.

**Submittals:****Supporting Documents****Types****(a) Air Conditioning Units**

1. For schools equipped with window-type and split-type air conditioning (A/C) units:

1.1 *A summary table* showing information of all the A/C units.

1.2 *Photographs* of the installed A/C units with energy label.



2. For schools equipped with other A/C equipment:

2.1 *A summary table* showing information of all the central A/C equipment.

2.2 *Photographs* of the central A/C equipment.

2.3 *Equipment catalogues* of the central A/C equipment.

**(b) School Equipment**

1. *A summary table* showing information of all the listed school equipment.

2. *Photographs* of the installed school equipment with energy efficiency label.

**(c) Efficient Lighting System**

1. *A lighting summary calculation* demonstrating at least 30% of the school floor areas are served by LED lighting.

2. *As-fitted school lighting layout drawings*.

3. *Lighting catalogue* of the installed fixtures.

4. *Photographs* of the installed lighting fixtures.

**(d) Provision of Task Lighting**

1. *Annotated layout plan* showing that at least 80% of the workstations in staff rooms and general offices are equipped with task lighting.

2. *Photographs* showing the provision of the task lighting at staff rooms and general offices.



**Additional Information:**

1. CLP Power, Electrical Equipment Upgrade Scheme. [ONLINE].
Available at: <https://www.clp.com.hk/en/business/low-carbon-solutions/funds-and-subsidies/electrical-equipment-upgrade-scheme>
2. Environment and Ecology Bureau, Green School 2.0 – Energy Smart. [ONLINE].
Available at: https://www.energysaving.gov.hk/en/competitions/green_schools_2.html
3. Electrical and Mechanical Services Department, Buildings Energy Efficiency Ordinance (Cap. 610). [ONLINE].
Available at: https://www.emsd.gov.hk/beeo/en/mibec_beeo_WhatsNews.html
4. Electrical and Mechanical Services Department, Mandatory Energy Efficiency Labelling Scheme. [ONLINE].
Available at: <https://www.emsd.gov.hk/energylabel/en/households/select.html>
5. Electrical and Mechanical Services Department, Task Lighting Design. [ONLINE].
Available at: https://www.emsd.gov.hk/filemanager/en/content_764/Task_Lighting_Design.pdf
6. Electrical and Mechanical Services Department, Voluntary Energy Efficiency Labelling Scheme. [ONLINE].
Available at: https://www.emsd.gov.hk/en/energy_efficiency/voluntary_energy_efficiency_labelling_scheme/registers/index.html
7. HK Electric, Smart Power Card Fund, [ONLINE].
Available at: <https://www.hkelectric.com/en/smart-power-services/smart-power-care-fund#G>
8. U.S. Environmental Protection Agency, ENERGY STAR, [ONLINE].
Available at: <https://www.energystar.gov/productfinder/>



Efficient Use of Resources

EUR-01 Decarbonisation Actions

EUR-01-02 Energy Efficient Measures

Objective:

Encourage the implementation of energy efficient measures to improve the energy performance.

Credit Point(s):

6

Attribute:



#Energy Use

Credit Requirement:

(a) Energy Audit

Conduct walk-through energy audit for school.

1

(b) Energy Efficient Measures

Implement 5 no. of energy efficient measures.

5

Assessment:

(a) Energy Audit

The Applicant shall engage a competent professional to conduct a walk-through energy audit for school within the past 5 years from the date of first submission.

(b) Energy Efficient Measures

1 credit point for implementing any 1 of the following energy efficient measures to enhance the school's energy performance. Maximum **5** credit points can be achieved.

Use of control sensors	Use of efficient devices	Continuous monitoring
Use of timer control	Replace inefficient lightings	Adequate inspection & maintenance
Automatic lighting control sensors	Use of solar window film	Power metering for monitoring
Zoning controls	Use of light reflectors	Retro-commissioning

The Applicant shall refer to the Technical Guidebook for a list of recommended energy efficient measures.

Submittals:

Supporting Documents

Types

(a) Energy Audit

1. A walk-through *energy audit report*.



(b) Energy Efficient Measures

1. A *report* describing the listed energy efficient measures adopted in school within the past 3 years.





Additional Information:

1. CLP Power, Energy Audit. [ONLINE].
Available at: <https://www.clp.com.hk/en/business/low-carbon-solutions/energy-management/energy-audit-service>
2. Environment and Ecology Bureau, Green School 2.0 – Energy Smart. [ONLINE].
Available at: https://www.energysaving.gov.hk/en/competitions/green_schools_2.html
3. Electrical and Mechanical Services Department, Retro-Commissioning Resources Centre. [ONLINE].
Available at: <https://www.rcxrc.emsd.gov.hk/en/>
4. HK Electric, Energy Audit. [ONLINE].
Available at: <https://www.hkelectric.com/en/smart-power-services/smart-power-energy-audit>



Efficient Use of Resources

EUR-01 Decarbonisation Actions

EUR-01-03 Renewable Energy

Objective:

Encourage the wider usage of renewable energy in schools and educate the next generation.

Credit Point(s):

2

Attribute:



#Management



#Energy Use

Credit Requirement:

(a) Renewable Energy

At least one renewable energy feature is installed on campus.

1

(b) Education and Learning

Use of the installed renewable energy feature(s) for educational purposes.

1

Assessment:

(a) Renewable Energy

1. Demonstrate at least one renewable energy feature is installed on campus.
2. There is no requirement on the quantity and power output of the installed renewable energy feature(s).

(b) Education and Learning

1. The Applicant shall make use of the installed renewable energy feature(s) for educational purposes.
2. The total teaching hours and the format of teaching are not assessed.

Submittals:

Supporting Documents

Types

(a) Renewable Energy

1. A *narrative* summarising the provision of renewable energy feature(s) installed on campus.
2. *Photographs* of the installed renewable energy feature(s).



(b) Education and Learning

1. A *narrative* summarising how to make use of the installed renewable energy feature(s) for educational purposes.
2. *Photographs* of teaching.



Additional Information:

1. Electrical and Mechanical Services Department, Education Resources on local Renewable Energy. [ONLINE]. Available at: https://re.emsd.gov.hk/english/gen/educational/edu_local.html
2. Electrical and Mechanical Services Department, Solar Harvest. [ONLINE]. Available at: <https://re.emsd.gov.hk/english/gen/4S/4S.html>



Efficient Use of Resources

EUR-01 Decarbonisation Actions

EUR-01-04 Water Efficient Fixtures

Objective:

Reduce the consumption of potable water and the volume of sewage discharged from schools through the application of water saving devices with proven performance. Also alleviate the loading on municipal sewage services and treatment facilities.

Credit Point(s):

4

Attribute:



#Water Use

Credit Requirement:

(a) Water Efficient Devices

At least 30% are certified under Water Efficiency Labelling Scheme (WELS) Grade 1 or equipped with flow controllers of WELS Grade 1; or

1

At least 50% are certified under WELS Grade 1

2

(b) Water Efficient Flushing Devices

At least 30% are certified under WELS Grade 1; or

1

At least 50% are certified under WELS Grade 1

2

Assessment:

(a) Water Efficient Devices

Install water efficient devices/ flow controllers that are certified under Water Supplies Department's (WSD) WELS Grade 1 for all the following types of water fixtures:

Basin taps and mixers	Shower heads	Kitchen/ Pantry sink taps
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(b) Water Efficient Flushing Devices

Install water efficient flushing devices that are certified under WSD's WELS Grade 1 for all the following types of water flushing fixtures:

Water closets	Urinal equipment
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Submittals:

Supporting Documents

Types

(a) Water Efficient Devices

1. A *schedule* summarising all water devices installed in schools and calculation demonstrating the quantity could fulfill the requirement.
2. *Registry of the WELS products* extracted from WSD's website/ registration certificate of WELS.
3. *Photographs* of the installed water efficient devices.





Supporting Documents	Types
(b) Water Efficient Flushing Devices	
1. A <i>schedule</i> summarising all water flushing devices installed in schools and calculation showing the quantity could fulfill the requirement.	
2. <i>Registry of the WELS products</i> extracted from WSD's website/ registration certificate of WELS.	
3. <i>Photographs</i> of the installed water efficient flushing devices.	

Additional Information:

Water Supplies Department, Water Efficiency Labelling Scheme (WELS). [ONLINE]. Available at: <https://www.wsd.gov.hk/en/plumbing-engineering/water-efficiency-labelling-scheme/index.html>

"Water is precious, don't waste it!"





Efficient Use of Resources

EUR-01 Decarbonisation Actions

EUR-01-05 Water Efficient Measures

Objective:

Encourage the implementation of water efficient measures to reduce potable water consumption.

Credit Point(s):

5

Attribute:



#Water Use

Credit Requirement:

Implement 5 no. of water efficient measures.

5

Assessment:

1 credit point for implementing any 1 of the following water efficient measures to reduce the school's water consumption. Maximum 5 credit points can be achieved.

Recycling of water	Use of monitoring devices	Continuous monitoring
Rainwater harvesting	Water sub-metering system	Maintain water use inventory
Greywater recycling	Water leakage detector	Water audit
Air conditioning condensate water recycling		

The Applicant shall refer to the Technical Guidebook for a list of recommended water efficient measures.

Submittals:

Supporting Documents

Types

1. A report describing the listed water efficient measures adopted in school.



Additional Information:

Water Supplies Department, School Water Audit [ONLINE].

Available at: <https://www.waterconservation.gov.hk/en/at-school/cherish-water-primary-school/teaching-resources/suggested-activities/school-water-audit/index.html>



Efficient Use of Resources

EUR-01 Decarbonisation Actions

EUR-01-06 Recycling Facilities

Objective:

Encourage integrated waste management for operational reduction at source, effective sorting and collection within the schools and recycling/ reuse of waste.

Credit Point(s):

3

Attribute:



#Materials and Waste

Credit Requirement:

(a) Basic Recycling Facilities

Provide recycling facilities for paper, plastic and metal at prominent locations of campus.

1

(b) Enhanced Recycling Facilities

Provide recycling facilities/ areas for two additional recyclable streams.

2

Assessment:

(a) Basic Recycling Facilities

Basic recycling facilities for paper, plastic and metal shall be provided at prominent locations, such as canteen/ tuck shop/ playground/ covered playground/ classrooms/ lobbies/ corridors, etc.

(b) Enhanced Recycling Facilities

1 credit point for providing each of the following recycling facilities/ areas. Maximum **2** credit points can be achieved:

Glass bottles	Clothes	Fluorescent lamps
Rechargeable batteries	Beverage cartons	Food waste
Organic landscape waste	Other recyclables proposed by Applicant	

Submittals:

Supporting Documents

Types

(a) Basic Recycling Facilities

- Annotated location plan* to indicate the provision of basic recycling facilities at prominent locations.
- Photographs* of the basic recycling facilities.



(b) Enhanced Recycling Facilities

- Photographs* of the claimed enhanced recycling facilities.



**Additional Information:**

1. Environment and Ecology Bureau, Green School 2.0 – Food Wise. [ONLINE].
Available at: <https://www.eeb.gov.hk/en/green-schools-2.html>
2. Environment and Ecology Bureau, Waste Blueprint for Hong Kong 2035. [ONLINE].
Available at: https://www.eeb.gov.hk/sites/default/files/pdf/waste_blueprint_2035_eng.pdf
3. Environmental Campaign Committee, Waste Separation and Recycling Scheme. [ONLINE].
Available at: <https://school.ecc.org.hk/en/programmes/wsars.html>
4. Environment Protection Department, Glass Container Recycling Service. [ONLINE].
Available at: https://www.epd.gov.hk/epd/english/environmentinhk/waste/pro_responsibility/gprs.html
5. Environmental Protection Department, Waste Reduction Information for School. [ONLINE].
Available at: <https://www.wastereduction.gov.hk/en/schools-corner.html>
6. Food Wise Hong Kong. [ONLINE].
Available at: <https://www.foodwisehk.gov.hk/en/index.php>
7. Friends of the Earth, Waste • No Way - Recycling Programme. [ONLINE].
Available at: <https://www.foe.org.hk//ProjectDetail.aspx?md=0&mid=0&cid=45&id=193>
8. The Conservancy Association, Waste Reduction and Recycling. [ONLINE].
Available at: <https://www.cahk.org.hk/en/work/recycle/>



Efficient Use of Resources
EUR-02 Benchmarking and Disclosure

EUR-02-01 School Environmental Performance

Objective:
 Encourage schools to measure, record, monitor and analyse the environmental performance, and to promote self-improvement.

Credit Point(s):

9

Attribute:



#Materials and Waste



#Energy Use



#Water Use

Credit Requirement:

(a) Performance Indices

Calculate and report the annual environmental performance indices for school.

3

(b) Self-improvement

Demonstrate improvement on annual energy use, water use and waste reduction/ recyclable enhancement.

6

Assessment:

(a) Performance Indices

The Applicant shall report the following annual environmental performance indices for assessment. **1** credit point for reporting any one of the below listed items. Maximum **3** credit points can be achieved.

Energy Utilisation Index (EUI)	Water Efficient Index (WEI)	Resource Recycling Index (RRI)
--------------------------------	-----------------------------	--------------------------------

(b) Self-improvement

1. The number of credit point(s) to be achieved shall be determined by referencing the reduction percentage using the electricity bill, water bill or waste disposal & recycling records. Baseline year can be any years in the past 3 years.

1.1 EUI

No. of Credit Points	1	2
Annual energy use reduction	≥3%	≥5%

1.2 WEI

No. of Credit Points	1	2
Annual freshwater use reduction	≥1%	≥3%

1.3 RRI

No. of Credit Points	1	2
Annual waste reduction or Annual RRI enhancement	≥2% ≥2%	≥5% ≥5%

The Applicant shall refer to the Technical Guidebook for the further explanations and calculation examples for reference.



Submittals:

Supporting Documents

Types

(a) Performance Indices

1. Energy Utilisation Index (EUI):

- 1.1 *Spreadsheet calculation* of the annual EUI.
- 1.2 *Electricity bills* of the performance period.

2. Water Efficient Index (WEI):

- 2.1 *Spreadsheet calculation* of the annual WEI.
- 2.2 *Water bills* of the performance period.

3. Resource Recycling Index (RRI):

- 3.1 *Spreadsheet calculation* of the annual RRI.
- 3.2 *Waste disposal and recycling records* of the performance period.



(b) Self-improvement

1. Annual energy use reduction:

- 1.1 *Spreadsheet* showing the calculation of percentage of energy reduction.
- 1.2 *Electricity bills* of the baseline and performance period.

2. Annual freshwater usage reduction:

- 2.1 *Spreadsheet* showing the calculation of percentage of freshwater reduction.
- 2.2 *Water bills* of the baseline and performance period.

3. Annual waste reduction/ Annual RRI enhancement:

- 3.1 *Spreadsheet* showing the calculation of percentage of waste reduction/ RRI enhancement.
- 3.2 *Waste disposal/ recycle records* of the baseline and performance period.





Efficient Use of Resources

EUR-02 Benchmarking and Disclosure

EUR-02-02 Carbon Audit

Objective:

Manage carbon footprint of schools through measuring greenhouse gas (GHG) emissions of schools, and to explore opportunities to reduce GHG emissions.

Credit Point(s):



Attribute:



#Materials and Waste



#Energy Use



#Water Use

Credit Requirement:

Conduct carbon audit to account for and report on annual GHG emissions and removals.



Assessment:

1. The Applicant shall engage a competent professional to conduct carbon audit to account for and report on annual GHG emissions and removals for the school.
2. The Applicant shall provide a carbon audit or GHG emissions verification report for assessment.

Submittals:

Supporting Documents

Types

- | | |
|--|--|
| 1. A carbon audit or GHG emissions verification report endorsed by a competent professional. | |
|--|--|

Additional Information:

1. Environmental Protection Department, Carbon Reporting Website. [ONLINE]. Available at: <https://www.carbon-footprint.hk/en/resources/resources.html>
2. Environmental Protection Department, Guide to Low Carbon Schools, Practical Guide on Carbon Audit and Management. [ONLINE]. Available at: https://www.carbon-footprint.hk/common/PDF/EPD_CA_Guidebook_Schools_Eng.pdf
3. Qualified Service Providers for Carbon Reduction Certificate Scheme (for Type I). [ONLINE]. Available at: <https://www.hkgoc.gov.hk/en-hk/carbon-reduction-certificate.html>



Efficient Use of Resources
EUR-02 Benchmarking and Disclosure

EUR-02-03 Data Disclosure

Objective:
 Encourage schools to disclose their environmental performance to the public.

Credit Point(s):

1

Attribute:



#Management

Credit Requirement:

Commit to disclosing environmental data/ performance to the public.

1

Assessment:

The Applicant shall disclose their carbon footprints and at least any 2 of the following performance indices/ data to public via school webpage or other means, such as school's annual report, newsletter and/ or mobile applications:

Annual energy consumption for past 2 years	Annual water consumption for past 2 years	Waste disposal records for past 2 years
Energy Utilisation Index (EUI)	Water Efficient Index (WEI)	Waste disposal record/ Resource Recycling Index (RRI)

Submittals:

Supporting Documents

Types

1. *Screen capture or School annual report* to demonstrate the performance indices/ data are disclosed to the public.



Additional Information:

Environmental Protection Department, GHG Emissions Data. [ONLINE].

Available at: <https://www.carbon-footprint.hk/en/index.html>

4. Sustainable Campus Environment

- 4.1 SCE-01 Biophilia
- 4.2 SCE-02 Neighbourhood Integration
- 4.3 SCE-03 Climate Resilience



Introduction: The assessment criteria in this performance category focus on the location of school and school campus environment, from microclimate and biodiversity enhancement to integration with neighbourhood community and extreme weather response.

4.1 SCE-01 Biophilia

- SCE-01-01 Campus Greening
- SCE-01-02 Agriculture Education

Background: It is important to adequately consider microclimate and biodiversity in the densely packed city like Hong Kong. Schools are encouraged to implement different green strategies, not only to preserve biodiversity and expand urban greenery, but also help in mitigating the adverse impact from urban heat island effect.

4.2 SCE-01 Neighbourhood Integration

- SCE-02-01 Low Carbon Commuting
- SCE-02-02 Neighbourhood Amenities
- SCE-02-03 Shared-Use Facilities

Background: Promoting the use of public/ low carbon transports across the community is one of the most effective ways to reduce roadside pollution and the carbon footprint.

Schools are encouraged to be integrated within, and assets to the immediate neighbourhood and the community.

Sharing of existing amenity spaces brings environmental, economic and social benefits to local community, reducing the need for new facilities and avoiding financial costs and promoting community engagement.

4.3 SCE-03 Climate Resilience

SCE-03-01 Response to Extreme Weather

Background: Climate change brings various challenges to Hong Kong, particularly the increased occurrence of extreme weather, from heavy rainstorms, tropical cyclones to heat wave in the summer. Schools shall therefore adopt proactive measures to reduce the potential risk to be generated from the extreme weather impacting on school and to safeguard the occupants from any adverse impacts thereafter.



Sustainable Campus Environment
SCE-01 Biophilia

SCE-01-01 Campus Greening

Objective:

Encourage schools to expand urban greenery and promote biodiversity.

Credit Point(s):

5

Attribute:



#Sustainable Site

Credit Requirement:

Implement 5 no. of greening strategies on campus.

5

Assessment:

1 credit point for implementing any 1 of the following greening strategies to expand urban greenery and promote biodiversity. Maximum 5 credit points can be achieved.

School Greening Strategies:

1. School greening, such as, soft landscape, vertical green wall and/ or planters, that covers at least 10% or 20% of the school site area for 1 or 2 credit points respectively.
2. Provide pot planting in classrooms/ general offices/ staff rooms/ corridor, etc.
3. Provision of green roof.
4. With planted tree(s) that is/ are able to reach at least 5 metres in height.
5. With native species plants/ butterfly or bee friendly plants.
6. Provision of Plant ID Sheet.
7. No petrochemical fertiliser or pesticide shall be used for the maintenance of the landscape areas.
8. Other strategies proposed by the Applicant.

Submittals:

Supporting Documents

Types

1. A report describing the implemented greening strategies in school.



Additional Information:

1. Leisure and Cultural Services Department, Greening School Programme. [ONLINE]. Available at: <https://www.lcsd.gov.hk/en/green/education.html>
2. Leisure and Cultural Services Department, Nectar Plant for Butterflies [ONLINE]. Available at: https://www.lcsd.gov.hk/en/green/butterfly/nectar_plants.html



Sustainable Campus Environment
SCE-01 Biophilia

SCE-01-02 Agriculture Education

Objective:

Promote environmental and sustainability awareness, as well as introducing the values of farming, animal welfare and responsibility through agricultural activities.

Credit Point(s):

1

Attribute:



#Sustainable Site

Credit Requirement:

Provide at least 1 type of agricultural facility in school and utilise the facility for education purpose.

1

Assessment:

1. The Applicant shall demonstrate at least **1** of the following listed provisions is available in school:

Organic farm	Eco-Garden	Eco-Pond
Aquaponics facility	Hydroponic farming	

2. There is no specific requirement on the size of the facility(ies).
3. The Applicant shall also demonstrate the use of agricultural facility(ies) for educational purposes. The format is not regulated.

Submittals:

Supporting Documents

Types

1. A <i>narrative</i> describing the agricultural facility(ies) adopted.	
2. <i>Photographs</i> of the agricultural facility(ies).	
3. Teaching records.	

Additional Information:

1. Agriculture, Fisheries and Conservation Department, Organic Farming in Hong Kong. [ONLINE].
Available at: https://www.afcd.gov.hk/english/agriculture/agr_orgfarm/agr_orgfarm.html
2. Education Bureau, Green Roofs. [ONLINE].
Available at: https://www.edb.gov.hk/en/sch-admin/admin/about-sch/green_roofs/index.html
3. Education University of Hong Kong, Eco-garden. [ONLINE].
Available at: https://www.eduhk.hk/ses/upload/Resource/Ecogarden/SES_EcoGarden_Leaflet_online.pdf



4. Kadoorie Farm and Botanic Garden, Sustainable Living & Agriculture. [ONLINE].
Available at: <https://www.kfbg.org/en/report-and-publications/sustainable-living-agriculture>
5. Sustainable Ecological Ethical Development Foundation, Green School. [ONLINE].
Available at: <http://www.seed.org.hk/en/green-education>



Sustainable Campus Environment
SCE-02 Neighbourhood Integration

SCE-02-01 Low Carbon Commuting

Objective:
Reduce roadside pollution by promoting the use of public/ low carbon transports across the community.

Credit Point(s):

2

Attribute:



#Sustainable Site

Credit Requirement

(a) Accessibility to Public Transport

Demonstrate the availability of public transportation facility is within a walking distance of 500m from the school main entrance.

1

(b) Bicycle Parking

Provide bicycle parking space on campus.

1

Assessment:

(a) Accessibility to Public Transport

1. The Applicant shall summarise the availability of public transportation facility that is within a safe pedestrian walking distance of 500m from the school main entrance.
2. The scheduled operating frequency of the public transport between 07:00 to 19:00 hours (Monday to Friday) shall be 10 minutes or less.

(b) Bicycle Parking

1. The bicycle parking space shall be provided on campus with clear signage.
2. There is no requirement on the size and quantity of the bicycle parking space.

Submittals:

Supporting Documents

Types

(a) Accessibility to Public Transport

1. A *narrative* summarising the availability of public transport.
2. A *public transport survey map* showing the information of public transport.
3. *Photographs* of the public transport facility.



(b) Bicycle Parking

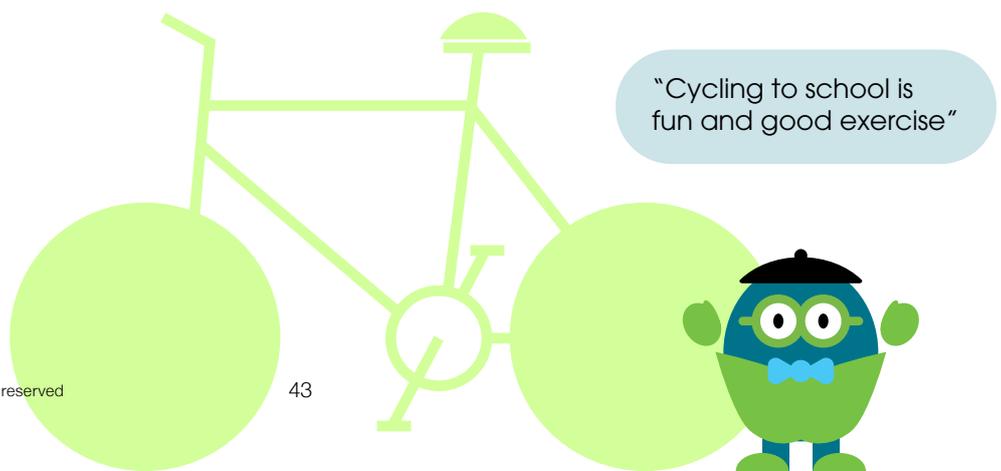
1. A *school layout drawing* showing the designated bicycle parking space.
2. *Photographs* of the bicycle parking space.





Additional Information:

1. Department for Transport, Low Carbon Transport: A Greener Future - A Carbon Reduction Strategy for Transport. [ONLINE].
Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228897/7682.pdf
2. HKSAR, GEOINFO Map. [ONLINE].
Available at: <https://www.map.gov.hk/gm/>
3. HKSAR, HKeMobility. [ONLINE].
Available at: <https://www.hkemobility.gov.hk/en/public-transport/>
4. Transport Department, Public Transport. [ONLINE].
Available at: https://www.td.gov.hk/en/transport_in_hong_kong/public_transport/index.html





SCE-02-02 Neighbourhood Amenities

Objective:

Encourage schools to integrate within and being an asset to the immediate neighbourhood.

Credit Point(s):

1

Attribute:



#Sustainable Site

Credit Requirement:

Demonstrate adequate amenities for school users are located within a safe pedestrian walking distance of 500m from the school main entrance.

1

Assessment:

The Applicant shall summarise the availability of **at least 5** different types of the neighbourhood amenities are within a safe pedestrian walking distance of 500m from the school main entrance.

Restaurant/ Cafe/ Take-away food shop/ Food & Beverage outlet	Convenience/ Grocery store	Supermarket/ Wet market
Retail shop	Bank or Automated Teller Machine	Pharmacy (with registered license and for retail purpose)
Public arts venue	Places of worship	Medical/ Health facility (including dental clinic)
Public library	Post office/ Postal facility	Community centre
Public recreational facility	Open space	

Submittals:

Supporting Documents

Types

1. *A narrative* summarising the availability of the neighbourhood amenities.
2. *A neighbourhood amenities survey map* showing the information of amenities.
3. *Photographs* of the neighbourhood amenities.



Additional Information:

HKSAR, GEOINFO Map - Amenities. [ONLINE].
Available at: <https://www.map.gov.hk/gm/map/>



Sustainable Campus Environment
SCE-02 Neighbourhood Integration

SCE-02-03 Shared-Use Facilities

Objective:

Integrate the school with the community by sharing its facilities for others' use.

Credit Point(s):

1

Attribute:



#Management



#Sustainable Site

Credit Requirement:

Establish joint use of school facilities with local school partners/ under the same school organisation group or for public use.

1

Assessment:

The Applicant shall formulate a shared-use policy so that at least one of the facilities as illustrated below can be shared-used by others:

Auditorium	School hall	Classroom
Sports field	Gymnasium	Swimming pool
Canteen	Religious premises	Others proposed by the Applicant

Submittals:

Supporting Documents

Types

1. *Floor plan* highlighting the shared-use facilities.



2. *Shared-use policy or Terms and conditions* for others to access the shared-used facilities.





Sustainable Campus Environment
SCE-03 Climate Resilience

SCE-03-01 Response to Extreme Weather

Objective:

Encourage schools to adopt proactive measures to reduce the risk and negative impact from extreme weather.

Credit Point(s):

5

Attribute:



#Management



#Sustainable Site

Credit Requirement:

Implement 5 no. of proactive measures in response to extreme weather.

5

Assessment:

1 credit point for implementing any 1 of the strategies listed in below measures to reduce the risk and negative impact from extreme weather. Maximum 5 credit points can be achieved.

Top management involvement	Provision of weather provision facilities	Pre & post typhoon preparations
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The Applicant shall refer to the Technical Guidebook for a list of recommended extreme weather response measures.

Submittals:

Supporting Documents

Types

1. A *narrative* describing the adopted measures in response to extreme weather in school.



Additional Information:

1. Hong Kong Observatory, Weather Information for Schools. [ONLINE]. Available at: <https://www.hko.gov.hk/en/school/school.htm>
2. U.S. National Weather Service, A Guide to Developing a Severe Weather Emergency Plan for Schools. [ONLINE]. Available at: <https://www.weather.gov/media/aly/School%20Weather%20Safety%20Plan.pdf>

5. Health, Comfort & Happiness

5.1 HCH-01 Healthy Indoor Environment

5.2 HCH-02 Healthy Living

5.3 HCH-03 Health Protection



Introduction: This performance category considers a broader perspective of sustainable school. The assessment criteria not only focus on the indoor environmental quality of the school, but also emphasise on the health and wellbeing of school occupants, from healthy lifestyles, mindfulness, to comfort and happiness.

5.1 HCH-01 Healthy Indoor Environment

HCH-01-01 Healthy Air

HCH-01-02 Openable Windows

HCH-01-03 Illuminance Levels

HCH-01-04 Background Noise

Background: Indoor environmental conditions have significant impacts on the quality of life. Schools should provide safe, healthy, convenient and efficient indoor spaces to school occupants, in terms of good indoor air quality, adequate fresh air, optimal lighting quality and acceptable acoustics environment.

5.2 HCH-02 Healthy Living

HCH-02-01 Drinking Water Quality

HCH-02-02 Healthy Lifestyle

Background: Unhealthy lifestyles pose a greater risk to human health, especially for the students. Schools therefore should promote healthy lifestyles, from healthy diet, physical activities to mindfulness, to safeguard the student and staff's physical and mental health.

5.3 HCH-03 Health Protection

HCH-03-01 Health Protection Measures

Background: Schools should take necessary steps to prioritise the health and safety of their students, staff, visitors and stakeholders. Developing health protection measures enable school to have planned and adequate resources in response to diverse emergency situations.



Health, Comfort & Happiness

HCH-01 Healthy Indoor Environment

HCH-01-01 Healthy Air

Objective:

Promote school occupants' comfort, well-being, and productivity by providing instant and continuous monitoring on indoor air quality.

Credit Point(s):



Attribute:



#Health and Wellbeing

Credit Requirement:

Install real-time Indoor Air Quality (IAQ) sensors to monitor IAQ levels at indoor spaces.



Assessment:

1. The Applicant shall install real-time IAQ sensors to fulfill the following requirements:
 - 1.1 IAQ parameters to be monitored:

PM _{2.5}	VOCs	CO ₂
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- 1.2 Required spaces:

Spaces	General office	Staff room	Classroom
Requirement	All	All	At least 50%

Submittals:

Supporting Documents

Types

1. A <i>narrative</i> showing the information of the installed IAQ sensors.	
2. A <i>layout plan</i> showing the locations of the installed IAQ sensors.	
3. Catalogues of the installed IAQ sensors.	
4. Photographs of the installed IAQ sensors.	

Additional Information:

1. American Federation of Teachers, Indoor Air Quality. [ONLINE]. Available at: <https://www.aft.org/health-safety-all/indoor-air-quality>
2. United States Environmental Protection Agency, Creating Healthy Indoor Air Quality in Schools. [ONLINE]. Available at: <https://www.epa.gov/iaq-schools>
3. Washington State Department of Health, School Indoor Air Quality Best Management Practices Manual. [ONLINE]. Available at: <https://www.doh.wa.gov/Portals/1/Documents/Pubs/333-044.pdf>



4. World Green Building Council, Indoor Air Quality in Schools. [ONLINE].
Available at: <https://www.worldgbc.org/sites/default/files/Better%20Places%20for%20People%20-%20Schools%20Briefing%20Notes%20-IAQ.pdf>



Health, Comfort & Happiness
HCH-01 Healthy Indoor Environment

HCH-01-02 Openable Windows

Objective:

Increase the supply of fresh air to indoor space through natural ventilation.

Credit Point(s):

1

Attribute:



#Energy Use



#Health and Wellbeing

Credit Requirement:

The openable area of windows shall be of a minimum of 4% of the net occupiable floor area.

1

Assessment:

Ensure the following space types are equipped with openable window area of a minimum of 4% of the net occupiable floor area:

General Office	Staff room	Classroom
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Submittals:

Supporting Documents

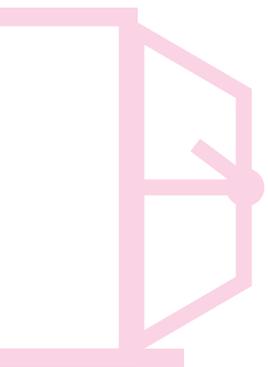
Types

1. <i>A report</i> with window schedule and room schedule.	
2. <i>Elevation drawings</i> showing the locations and the area of the openable windows.	
3. <i>Layout plan</i> showing the area of the indoor spaces.	
4. <i>Calculation</i> showing the openable window area could fulfill the requirement.	
5. <i>Photographs</i> of the openable windows at the specified indoor spaces.	

Additional Information:

American Society of Heating Refrigeration and Air Conditioning Engineers – ANSI/ASHRAE Standard 62.1-2022 Ventilation and Acceptable Indoor Air Quality. [ONLINE].

Available at: <https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards>



“A breath of fresh air!”



Health, Comfort & Happiness

HCH-01 Healthy Indoor Environment

HCH-01-03 Illuminance Levels

Objective:

Ensure adequate illuminance levels are achieved at indoor spaces.

Credit Point(s):

1

Attribute:



#Health and Wellbeing

Credit Requirement:

Fulfill the prescribed illuminance levels at specified indoor spaces.

1

Assessment:

The Applicant shall conduct measurements to demonstrate the average illuminance levels meet the following requirements:

Spaces	General office	Staff room	Classroom
Illuminance Level	300 Lux (for mainly screen based work) 500 Lux (for mainly paper based work)		500 Lux

Submittals:

Supporting Documents

Types

1. An *illuminance measurement report* showing the results at different spaces.



Additional Information:

The Chartered Institution of Building Services Engineers (CIBSE) – The SLL Code for Lighting 2012.



Health, Comfort & Happiness

HCH-01 Healthy Indoor Environment

HCH-01-04 Background Noise

Objective:

Maintain optimal background noise level at indoor spaces such that nuisances from both interior (MVAC) and exterior (traffic) sources will not impact occupants' health and well-being.

Credit Point(s):



Attribute:



#Health and Wellbeing

Credit Requirement:

Fulfill the prescribed background noise level at specified indoor spaces.



Assessment:

The Applicant shall conduct noise measurements over a period of 5 minutes to demonstrate the average background noise levels meet the following requirements:

Spaces	General office	Staff room	Classroom
Maximum Background Noise Levels	45 dB(A)		40 dB(A)

Submittals:

Supporting Documents

Types

1. A *background noise measurement report* showing the results at different spaces.



Additional Information:

International Electrotechnical Commission. IEC 61672-1:2013 Electroacoustic – Sound level meters.





Health, Comfort & Happiness
HCH-02 Healthy Living

HCH-02-01 Drinking Water Quality

Objective:

Ensure the drinking water complies with health-based thresholds.

Credit Point(s):

1

Credit Requirement:

The water quality at all drinking water points within school meets the thresholds as stipulated by the Water Supplies Department.

1

Attribute:



#Water Use



#Health and Wellbeing

Assessment:

Engage an accredited laboratory to test the water quality at all drinking water points regularly, i.e., once a year, to ensure the drinking water meets the thresholds as stipulated by the Water Supplies Department (WSD).

Submittals:

Supporting Documents

Types

1. *A layout plan* showing all the drinking water points.



2. *Water sampling test results* issued by an accredited laboratory.



Additional Information:

- Department of Health, Health Advice to Schools and Kindergartens for Reducing Lead Exposure. [ONLINE].
Available at: https://www.chp.gov.hk/files/pdf/health_advice_on_lead_in_water_in_school_settings_e.pdf
- Education Bureau, Reducing Lead Exposure. [ONLINE].
Available at: <https://www.edb.gov.hk/en/sch-admin/admin/about-sch/reducing-lead-exposure/index.html>
- Hong Kong Laboratory Accreditation Scheme (HOKLAS), Accredited Conformity Assessment Bodies. [ONLINE].
Available at: https://www.itc.gov.hk/en/quality/hkas/conformity_assessment_bodies/hoklas.html
- Water Supplies Department, Action Plan for Enhancing Drinking Water Safety in Hong Kong. [ONLINE].
Available at: <https://www.wsd.gov.hk/en/core-businesses/water-quality/action-plan-for-enhancing-of-drinking-water-safety/index.html>



5. Water Supplies Department, Quality Water Supply Scheme for Buildings – Fresh Water (Management System). [ONLINE].
Available at: <https://www.wsd.gov.hk/en/water-safety/fresh-water-management-system-/index.html>



Health, Comfort & Happiness
HCH-02 Healthy Living

HCH-02-02 Healthy Lifestyle

Objective:

Promote and support healthy lifestyle among school occupants.

Credit Point(s):

6

Attribute:



#Health and Wellbeing

Credit Requirement:

(a) Promotion of Healthy Lifestyle

Promote healthy lifestyle through advertising and messaging.

1

(b) Support of Healthy Lifestyle

Implement 5 no. of healthy lifestyle ideas.

5

Assessment:

(a) Promotion of Healthy Lifestyle

Promote healthy lifestyle on campus through advertising and messaging.

(b) Support of Healthy Lifestyle

1 credit point for implementing any 1 of the ideas under the following strategies to support healthy lifestyle. Maximum **5** credit points can be achieved.

Healthy eating	Physical exercise	Mindfulness
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#The Applicant shall refer to the Technical Guidebook for a list of recommended healthy lifestyle ideas.

Submittals:

Supporting Documents

Types

(a) Promotion of Healthy Lifestyle

1. *Photographs* showing the promotional material(s).



(b) Support of Healthy Lifestyle

1. A *narrative* on the description of the strategies implemented to support healthy lifestyle.



Additional Information

1. Department of Health, EatSmart@school.hk. [ONLINE]. Available at: <https://school.eatsmart.gov.hk/en/index.aspx>
2. Department of Health, Student Health Service. [ONLINE]. Available at: <https://www.studenthealth.gov.hk/eindex.html>
3. Education Bureau, Healthy School. [ONLINE]. Available at: <https://www.edb.gov.hk/en/curriculum-development/curriculum-area/life-wide-learning/healthy-school/index.html>



4. Education Bureau, Physical Education – References & Resources. [ONLINE].
Available at: https://www.edb.gov.hk/en/curriculum-development/kla/pe/references_resource/index.html
5. Green Monday, School Programme. [ONLINE].
Available at: <https://greenmonday.org/en/school-programme/>



Health, Comfort & Happiness
HCH-03 Health Protection

HCH-03-01 Health Protection Measures

Objective:

Enable schools to safeguard the health of the users.

Credit Point(s):

5

Attribute:



#Management



#Health and Wellbeing

Credit Requirement:

Implement 5 no. of health protection measures.

5

Assessment:

- ① credit point for implementing any 1 of the health protection measures under the following topics to ensure the school is well equipped in response to pandemic. Maximum
- ⑤ credit points can be achieved.

1. Top management planning

2. Adequate resources are in place

3. Implement preventive measures

4. Provide education and training

The Applicant shall refer to the Technical Guidebook for a list of recommended Health Protection measures

Submittals:

Supporting Documents

Types

1. A *narrative* describing the implemented health protection measures.



Additional Information:

1. Centre for Health, Health Advice to School for the Prevention of COVID-19. [ONLINE]. Available at: <https://www.chp.gov.hk/en/features/102742.html>
2. U.S. Centres for Disease Control and Prevention, Schools, Child Care, and Colleges. [ONLINE]. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/index.html>
3. World Health Organization, Considerations for school-related public health measures in the context of COVID-19. [ONLINE]. Available at: <https://www.who.int/publications/i/item/considerations-for-school-related-public-health-measures-in-the-context-of-covid-19>

6. Innovations and Additions

6.1 IA-01 Innovations and Additions



Introduction: To promote continual improvement by encouraging schools to adopt innovative ideas, techniques or practices that address sustainability in a novel way.

Background: This section allows the Applicant to submit for consideration for the award of Bonus credit points on any innovative techniques or performance enhancements which the Applicant deems to provide environmental benefits in addition to those already covered in this Manual.

The Applicant shall be solely responsible to submit quantitative evidence for BEAM Society Limited (BSL) review and approval.

Generally, the submission materials shall comprehensively detail the benefits, environmental impact averted, or exemplary performance achieved compared to existing criteria.

Important Note: The Applicant shall explicitly state the full extent, scope, and coverage of the intended innovation submission.



Innovations and Additions

IA-01 Innovations and Additions

IA-01-01 Innovations and Additions

Objective:

Promote continual improvement by encouraging schools to adopt innovative ideas, techniques or practices that address sustainability in a novel way.

Credit Point(s):

10B

Attribute:



#Innovations and Additions

Credit Requirement:

Provide/ implement different innovative green features or ideas in school or demonstrate a significant performance enhancement of an existing credit requirement.

10B

Assessment:

1. Maximum **10** Bonus credit points for implementing innovative green features or ideas in school or demonstrate a significant performance enhancement that greatly exceed the requirements of existing BEAM credits.
2. A non-exhaustive list of examples is provided in the Technical Guidebook for reference.

Submittals:

Supporting Documents

Types

1. A *narrative* describing the implemented innovative green features or ideas.



7. Appendix

7.1 Glossary



Baseline

A line serving as the basis for comparison in performance-based approach.

CFCs – Chlorofluorocarbons

CFCs cause ozone depletion when released into the atmosphere.

CFL – Compact Fluorescent Lamp

CFL also known as a compact fluorescent light, is a type of fluorescent lamp. The best of compact fluorescent lamp is combining the energy efficiency of fluorescent lighting with the convenience and popularity of incandescent fixtures. CFL can replace incandescent that are roughly 3–4 times their wattage, saving up to 75% energy. CFL have long rated life for around 8,000 service hours, while incandescent light bulbs typically last only 500 to 2,000 hours.

DCS – District Cooling System

A DCS distributes cooling capacity in the form of chilled water or other medium from a central source to multiple buildings through a network of underground pipes for use in space and process cooling. Individual user purchases chilled water for their building from the district cooling system operator and do not need to install their own chiller plants. For this system, a central chiller plant, a pump house and a distribution pipeline network are required.

EMOs – Energy Management Opportunities

EMOs are the ways to achieve energy efficiency and conservation.

EUI – Energy Utilisation Index

EUI in relation to the total energy consumption of the central building services installations in a building, means dividing

total energy consumption for a specific period by the total internal floor area of the building.

External Shading

External shading is a device incorporated in the building facade to limit the internal heat gain resulting from solar radiation.

GHG – Greenhouse Gas

GHG is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect.

HCFCs – Hydro-chlorofluorocarbons

HCFCs cause ozone depletion when released into the atmosphere.

IAQ – Indoor Air Quality

In modern city life, people spend most of their time indoors, e.g. at home, office, school, etc. Therefore, the quality of air in an indoor environment – Indoor Air Quality (IAQ) – has a significant impact on human health and comfort.

Good IAQ is important to safeguarding the health of the building occupants and contributes to their comfort and well-being.

Poor IAQ can lead to discomfort and health issues, such as headaches, itchy eyes, respiratory difficulties, skin irritation, nausea and fatigue. It can also result in increased absenteeism and lower productivity in the workplace.

MVAC

Mechanical ventilation and air-conditioning installations.

Normally Occupied Spaces

Normally occupied spaces are enclosed spaces where people normally stay more than 1 hour there. Examples include activity room, auditorium, classroom, conference room, exhibition hall, indoor sport hall, library and office.

Not Normally Occupied Spaces

Not normally occupied areas are enclosed spaces where people normally stay less than 1 hour there. Examples include corridor, entrance and lift lobby and locker room, etc.

Potable Water

Water that is safe enough to be consumed by human beings or used with low risk of immediate or long-term harm. Although the quality of water supplied to buildings in Hong Kong is strictly controlled, the quality of water drawn from consumers' taps may sometimes be affected by the condition of the inside plumbing system such as discolouration from rusty pipes. Consumers are responsible for proper maintenance of internal plumbing system and are required to engage a licensed plumber if the water quality is found to be affected due to the defects in the plumbing system.

RRI – Resource Recycling Index

RRI serves as the performance indicator for resource (waste) recycling efficiency, and refers to the amount of recyclables used per school activity indicator.

VOC – Volatile Organic Compounds

VOCs are a large group of chemicals that are found in many products we use to build and maintain our homes. Once these chemicals are in our homes, they are released or “off-gas” into the indoor air we breathe. They may or may not be able to be smelled, and smelling is not a good indicator of health risk.

VOCs are found in wide variety of everyday products such as solvent-based paints/ coatings, adhesives, sealants, printing inks, many consumer products, organic solvents and petroleum products.

VRF – Variable Refrigerant Flow

VRF sometimes refers to as “Variable Refrigerant Volume” (VRV). This is a kind of multi-split HVAC system which one external condensing unit/ heat pump is connected by refrigerant pipework to several indoor cooling/ cooling

and heating units. The volume or flow rate of refrigerant is accurately matched to the required heating or cooling loads therefore saving energy and providing more accurate control.

VSD – Variable Speed Drives

VSDs are electronic devices which can be attached to an induction motor with a control mechanism. They can be incorporated into any motor with a variable load, but the most common applications are pumps and fans.

Almost all pump and fan systems are sized to handle maximum load under worst case conditions and then leaving them to run at full power. By using Variable speed drives (VSDs) to vary the flow according to the actual demand can save a significant amount of energy.

WEI – Water Efficient Index

WEI serves as the performance indicator for water efficiency, and refers to the amount of water used per school activity indicator.

WELS – Water Efficiency Labelling Scheme

WELS label showing the level of water consumption and water efficiency of the plumbing fixtures and water-consuming devices helps consumers to make choices of purchase. The Water Supplies Department has launched the voluntary WELS since 2009 and implemented it in phases for six types of plumbing fixtures and water-consuming devices. showers for bathing, water taps, washing machines, urinal equipment, flow controllers and water closets.

7. Appendix

7.2 Examples on Determination of Overall Rating

Grade	Achievement
Green	Overall score: ≥ 50
Green + Outstanding Performance: i. Sustainable Leadership and Learning ii. Efficient Use of Resources iii. Sustainable Campus Environment iv. Health, Comfort & Happiness	Overall score: ≥ 50 + % of credit point achievement in individual performance category $\geq 70\%$

If the overall credit point achievement is less than 50, the school will be assessed as “Unclassified”.

Scoring Examples:

School A:

Performance Category	Total Credit Points (A)	Achieved Credit Points (B)	% of Achieved Credit Points (C)
Sustainable Leadership and Learning	33	20	60.6%
Efficient Use of Resources	36	10	27.8%
Sustainable Campus Environment	15	8	53.3%
Health, Comfort & Happiness	16	8	50.0%
Innovations and Additions	10B	2	-
Overall Score:		48	

School A has a total achieved score of 48 which is less than 50, therefore School A is assessed as “Unclassified” (without Certificate).

Scoring Examples:*School B:*

Performance Category	Total Credit Points (A)	Achieved Credit Points (B)	% of Achieved Credit Points (C)
Sustainable Leadership and Learning	33	23	69.7%
Efficient Use of Resources	36	20	55.6%
Sustainable Campus Environment	15	10	66.7%
Health, Comfort & Happiness	16	11	68.8%
Innovations and Additions	10B	2	–
Overall Score:		66	

School B has a total achieved score of 66 which is more than 50, but it did not achieve a 70% of attainable credit points for any individual performance category, therefore School B is awarded as **“Green” (with Certificate)**.

Scoring Examples:*School C:*

Performance Category	Total Credit Points (A)	Achieved Credit Points (B)	% of Achieved Credit Points (C)
Sustainable Leadership and Learning	33	31	93.9%
Efficient Use of Resources	36	17	47.2%
Sustainable Campus Environment	15	13	86.7%
Health, Comfort & Happiness	16	12	75.0%
Innovations and Additions	10B	3	–
Overall Score:		76	

School C has a total achieved score of 76 which is more than 50, and it also achieved 70% of attainable credit points in three of the performance category, therefore School C is awarded as **“Green + Outstanding Performance in Sustainable Leadership and Learning, Sustainable Campus Environment, Health, Comfort & Happiness” (with Certificate)**.