



SUSTAINABLE CITIES CHALLENGE

CHALLENGE INFO PACK



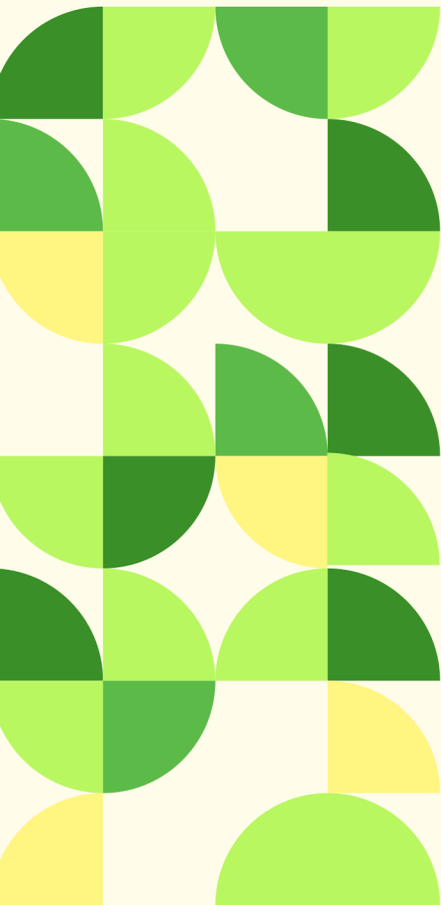
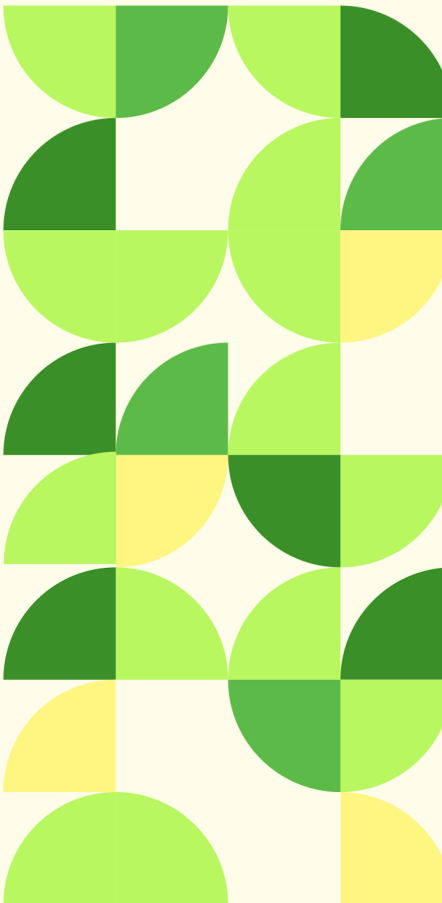


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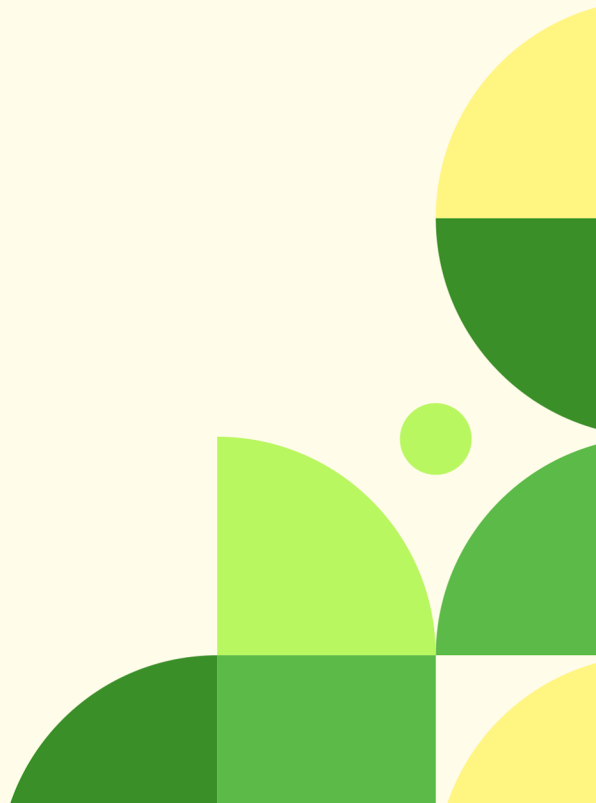
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INTRODUCTION

The Sustainable Cities Challenge invites tertiary students in Singapore to design, innovate, and reimagine sustainability through landscapes and architecture.

It aims to foster a culture of sustainable design thinking. By envisioning innovative solutions that seamlessly integrate sustainability into urban and architectural marvels, participants are given the opportunity to shape a greener and more sustainable future for our cities.



HOW TO PARTICIPATE FOR QUALIFYING STAGE (PHASE 1)

Students can work individually or in groups of up to 4 members per group.

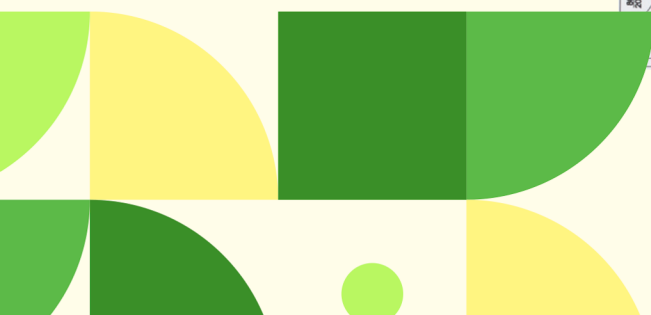
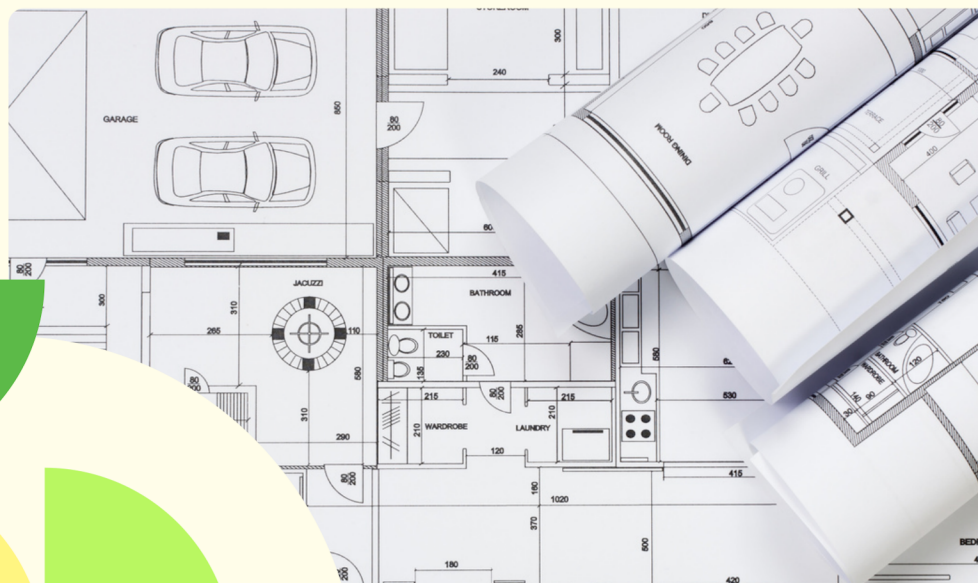
Students must register and submit their proposal and supporting drawings/illustrations/photos online at crea8sustainability.sg/sustainable-cities-challenge/register

Registration opens on
Tuesday, 13 February 2024.

The closing deadline to submit both registration and proposal
Monday, 15 April 2024, 11:59pm.

Participants with successful submissions will receive an email notification with an assigned entry number.

Contact the Crea8 Sustainability team at crea8sustainability@pacificlight.com.sg if you did not received a confirmation within 2 business days.



WHO CAN PARTICIPATE

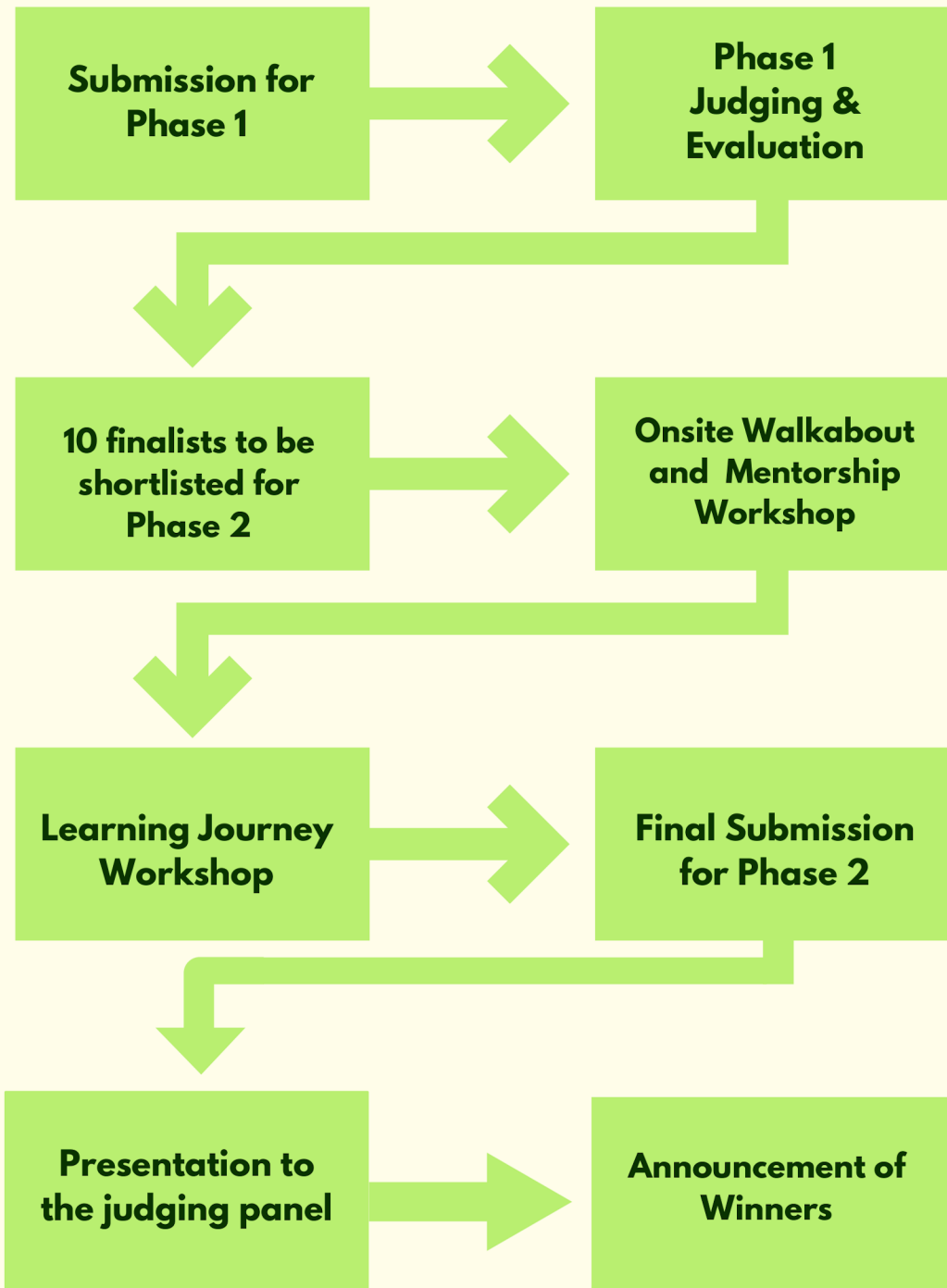
The challenge is open to all tertiary students in Singapore in

- Junior Colleges
- Polytechnics
- Institutes of Technical Education (ITE)
- Private tertiary institutions of the equivalent

CHALLENGE SCHEDULE

Competition Launch	13 February 2024
Submission deadline for Qualifying stage	15 April 2024
Announcement of shortlisted finalists	22 April 2024
On-site Walkabout to Case Study Building	Between 6 June to 14 June 2024
Mentorship Workshop (Online consultation Session)	Between 6 June to 14 June 2024
Learning Journey Workshop	10 June 2024 (<i>To be advised</i>)
Submission deadline for Finalist stage	21 June 2024
Presentation to the judging panel	27 and 28 June 2024
Results announcement	12 July 2024

COMPETITION PROCESS



SUBMISSION FORMAT

PHASE 1 - QUALIFYING SUBMISSION

Items for Submission	Format Requirement
<ul style="list-style-type: none">• Proposal+ supporting photos, drawings and/or illustrations• Building floorplan (optional)	<ul style="list-style-type: none">• Proposal submission , including all photos, floor plan, drawings or illustrations MUST be less than 100 MB and in PDF format.• Font size should be no smaller than 12pt.• Appendices should be clearly set out in the proposal.• Reference source for any information or data quoted in the proposal.

PHASE 2 - FINAL SUBMISSION (FOR SHORTLISTED FINALISTS)

Items for Submission	Format Requirement
<ul style="list-style-type: none">• Updated/Revised proposal• Additional photos, drawings and/or illustrations to support the revised/updated submission• Presentation deck for judging and evaluation	<ul style="list-style-type: none">• Updated/Revised proposal, including all photos/drawings or illustrations MUST be less than 100MB and in PDF format.• Font size should be no smaller than 12pt.• Appendices should be clearly set out in the proposal.• Reference source for any information or data quoted in the proposal.• Presentation deck MUST be in PDF format and less than 100MB.

PRESENTATION TO THE JUDGING PANEL

Presentation Format	Format Requirement
<ul style="list-style-type: none">• Powerpoint presentation to judging panel	<ul style="list-style-type: none">• PPT or PDF

THE CHALLENGE

To address the design improvements to be made to the selected building to achieve a lower its carbon footprint.

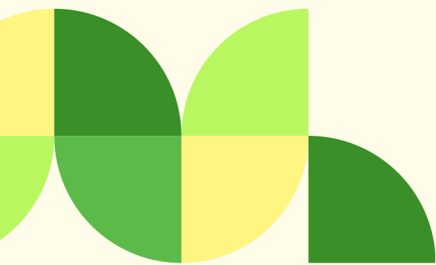
We are looking for proposed improvement solutions for
(a) ENERGY EFFICIENCY; and
(b) ANY TWO of the following areas below



- **Interior Design**
- **Greenery Integration**
- **Mobility**

- **Water Efficiency**
- **Waste Management**





BUILDING SELECTION

Participants to select one of the following buildings below for their case study

Information about the buildings and floorplan for each case-study building can be downloaded from the Sustainable Cities Challenge microsite



RETAIL - HOUGANG MALL

Year Acquired by Frasers Centerpoint Trust : 2020

**Net Lettable Area:
13,393 sqm (165, 692 sf)**

**Annual Shopper Traffic:
12.7 million (Oct 2022 - Sept 2023)**

**Address :
90 Hougang Avenue 10, Singapore
538786**

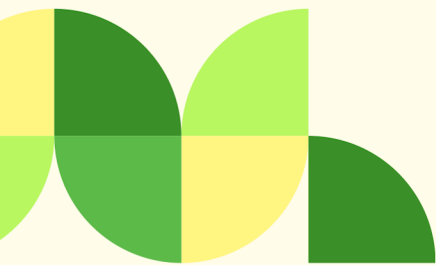
Occupying an area of 166,361 square feet, Hougang Mall has a total of 7 levels including a Basement 2 car park. The retail levels are from Basement 1 to Level 5. and have a total of 131 outlets distributed throughout the 6 levels.

Their positioning statement is “For families who are value conscious, Hougang Mall is the convenient mall that serves the basic needs to our community”. They are targeting couples who are value-conscious and are always interested in mall promotions, followed by children who are interested in the latest games, fast food and stationeries, and lastly, senior citizens who enjoy grocery shopping, buying of health and tonic products, and like to sit down to chit chat with friends.

With the bus interchange and the MRT conveniently located nearby Hougang Mall, it attracts many shoppers to the mall.

Hougang Mall is also recognized for many awards such as the PUB appreciation award for being a water efficient building, attained a “We Welcome Families” award for being family-friendly and recently, 3R Merit Award by NEA for its commendable waste minimization and recycling practices.

**Download information about the building and floorplan:
crea8sustainability.sg/sustainable-cities-challenge**



BUILDING SELECTION

Information about the building and floorplan for each case-study building can be downloaded from the Sustainable Cities Challenge microsite



Tenure: 99 years

**Net Lettable Area:
684,585 sq ft**

**Address :
182 Cecil Street, Singapore 069547**

COMMERCIAL- FRASERS TOWER

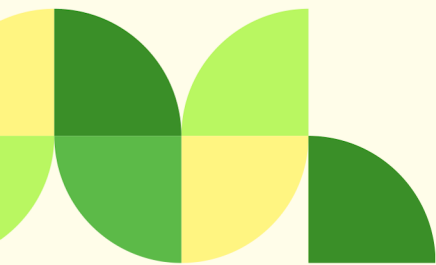
Fraser's Tower is a 38-storey Grade A office development with a three-storey cascading retail podium strategically located at the gateway to the dynamic Central Business District.

Designed to meet the demands of the workforce of tomorrow, Fraser's Tower features future-focused work spaces built to foster team collaboration, nurture employee well-being, and support technology integration.

A recipient of the Singapore Building and Construction Authority's Green Mark Platinum award, Fraser's Tower offers a sustainable work-life environment equipped with energy-efficient and smart building features.

With thoughtfully designed office spaces seamlessly integrated with soothing greenery, convenient lifestyle amenities, and dynamic community zones that encourages interaction and a vibrant work life, Fraser's Tower is set to transform the way we work.

Download information about the building and floorplan:
crea8sustainability.sg/sustainable-cities-challenge/



BUILDING SELECTION

Information about the buildings will be provided in the Appendix. Building Information and floorplan for each case-study building can be downloaded from the Sustainable Cities Challenge microsite



**Year of Construction and TOP:
2017**

**Gross Floor Area
3,867.79sqm**

**Address :
1 Hillview Rise #01-01 S667970**

**PUBLIC FACILITY -
HILLVIEW COMMUNITY CLUB**

Officially opened by Prime Minister Lee Hsien Loong on 5th May 2019, Hillview Community Club, situated in the heart of the Hillview neighbourhood, is uniquely positioned amidst nature, providing residents with a refreshing escape from the hustle and bustle of urban life, and serves as a dynamic focal point for fostering unity.

With a diverse range of facilities, including multipurpose halls and recreational spaces like the newly established Community Library, the club offers a platform for community members to connect and build lasting relationships. Its vibrant calendar of programs and events, thoughtfully curated to cater to the diverse interests of residents of all ages, including children, adults, and seniors, spans across fitness classes, workshops and more.

In essence, the Hillview Community Club is not merely a space but a testament to the power of community spirit, enriching the lives of its members and shaping the cohesive identity of the Hillview community.

Download information about the building and floorplan:

crea8sustainability.sg/sustainable-cities-challenge/

IMPROVEMENT CATEGORIES REFERENCE

Examples of improvement areas. List is not exhaustive.



Interior Design

FURNISHING	CARPENTRY	VENTILATION
SPACE	LAYOUT IMPROVEMENT	



Greenery Integration

ACCESS TO NATURE	INDOOR AND OUTDOOR PLANTING
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Mobility

ACCESS POINTS	PARKING	SEATING & SHELTER
SIGNAGE	PAVEMENTS AND ROADS	



Water Efficiency

WATER TRANSPORTATION SYSTEM	HEATED WATER SYSTEM	IRRIGATION
APPLIANCES UTILISING WATER		



Waste Management

WASTE SORTING AND DISPOSAL	RECYCLING	SEARING & SHELTER
COMPOSTING		



PHASE 2 - FINAL SUBMISSION

Participants are to expand and improve their proposal for the Final Submission, based on any information and/or advice from the building owners and observations made during the On-site Walkabout and Mentorship Workshop.

**** Participants whose submission proposal in Phase 1 included utilities improvements (Electricity, Water and Waste) are to include the following in their final updated/revised proposal:**

- Calculate the carbon emissions from the electricity, water consumption and waste generated by the case-study building over the last six months using the utilities consumption data provided.
 - Analyze where the largest consumption/wastage generation originates and their consumption/wastage patterns.
 - Decide on the efficiency improvement percentage for each consumption type and calculate the carbon reduction target to be achieved.
 - Identify solutions to achieve the decided efficiency improvement percentage and carbon reduction target. ***(To be supported with estimated calculation evidence and local case studies that the solutions recommended will be able to achieve the objectives)***
- Optional -**
Additional points shall be awarded during the judging and evaluation if finalists address this in their final submission proposal.
- Develop community engagement strategies to encourage behavioral changes to keep electricity and water consumption low and waste management to a minimum.

NOTE:

- Support your proposal using illustrations, images, and local case studies where relevant.
- You may use the free online carbon footprint calculators to aid with the calculation of carbon emissions.
- Estimated numbers may be used to determine how much carbon emissions an improvement would generate. If you use a reference data set or make assumptions, please provide the source of the data



EVALUATION CRITERIA FOR PHASE 1 GENERAL SUBMISSION

iNNOVATION (20%)

- Are the proposed improvements unique or novel?

Feasibility and Implementation (30%)

- Is the idea technically feasible?
- Are there sufficient details as to how the solution will be implemented?

Relevance (30%)

- Do the proposed improvements sufficiently address the selected areas?
- How applicable are the proposed ideas in terms of sustainability or reduction of the building's carbon footprint?

Supporting Evidence (20%)

- Do the visuals (illustrations/photos) provided give a better understanding of the proposed concept?
- How relevant are the case studies used in supporting the suggestions?

EVALUATION CRITERIA FOR PHASE 2 FINAL SUBMISSION

iNNOVATION (15%)

- Are the proposed improvements unique or novel?

Feasibility and Implementation (30%)

- Is the idea technically and economically feasible?
- Has the proposal sufficiently addressed the feedback given by the knowledge partner?
- Are there sufficient details as to how the solution(s) will be implemented?

Accuracy (20%)

- Are the calculations performed accurately?
- Are the proposed numbers from your suggestions realistic?

Supporting Evidence (20%)

- Do the visuals (illustration/photos) provided give a better understanding of the proposed concept?
- How relevant are the case studies in supporting the suggestions?

Presentation (15%)

- Is the presentation delivery clear and audible?
- Are the slides logically organised and clearly presented?
- Did the finalist(s) address the judges' questions and feedback in a professional and knowledgeable manner?

MENTORSHIP WORKSHOP & LEARNING JOURNEY

Shortlisted finalists will participate in mentoring session and an on-site building facility tour of the building they have selected for their submission.

The “Ask me Anything” session will be a one-to-one session with the buildings owners (“Supporting Partner”) where participants will be given additional information, advice and guidance on their improvement solutions



Time Commitment:

Date:

Assignment:

Onsite Walkabout (1 hour)

Online mentorship (1 to 1.5hrs)

To be advised via email

2 to 3 individual/Groups to 1 Supporting Partner



Learn from the Sustainability Team at the Singapore Discovery Centre on the transformation journey to net positive was achieved at the Singapore Discovery Centre building with this Learning Journey Workshop.

Finalists will also get an opportunity to learn about sustainable built environment and on sustainability through the sharing from our Supporting Partners.

Time Commitment: 1/2 day

Date: 10 June 2024

(To be advised via email)

Venue: Singapore Discovery Centre

CREA8 SUSTAINABILITY TEAM CONTACT



CREA8SUSTAINABILITY@PACIFICLIGHT.COM.SG



CREA8SUSTAINABILITY.SG

SUSTAINABLE CITIES CHALLENGE MICROSITE

CREA8SUSTAINABILITY.SG/SUSTAINABLE-CITIES-CHALLENGE

